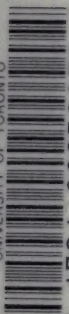


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ΑΡΙΣΤΟΤΕΛΗΣ ΠΕΡΙ ΨΥΧΗΣ

ARISTOTLE'S PSYCHOLOGY

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ΑΡΙΣΤΟΤΕΛΗΣ ΠΕΡΙ ΨΥΧΗΣ

ARISTOTLE'S PSYCHOLOGY

IN GREEK AND ENGLISH,

WITH

INTRODUCTION AND NOTES

BY

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FELLOW AND TUTOR OF WORCESTER COLLEGE, OXFORD.

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PREFACE.

THIS edition of Aristotle's Psychology will, it is hoped, make the work more easily accessible to English readers. Trendelenburg's Commentary, especially with Belger's additions, is an admirable book of its kind, and without it the present work would never have been possible. But its somewhat obscure Latin and its tedious extracts from Simplicius and others probably repel many students. It seemed desirable besides, to test the value of Torstrik's criticisms in regard to several portions of the text. Without denying the existence of repetition and disorder in much that Aristotle wrote, or rather left in notes, I have tried in several passages to maintain the general correctness of the ordinary text against Torstrik's objections and 'emendations.'

Explanation however, rather than textual criticism, has been the end which I have set before myself. A few various readings have been given, but they are only a selection from the fuller list given in Trendelenburg and Torstrik. It seemed, in fact, useless to encumber the volume with lists of trifling variations—

some of which (especially in S) are evidently nothing but stupid and careless blunders. But I trust I have managed to pick out the more important deviations which the MSS. present. In annotating, my chief aim has been to trace the sequence of ideas in my author. Particularly I have tried to shew that some passages on which Torstrik supports his theory of a double recension of the text are not the mere duplicates he supposes.

The Introduction is intended to bring out the real value of Aristotle's psychological investigations and to connect them with his other writings. The importance of these psychological results is probably too fully recognised to make it necessary to insist upon them here. I have tried especially to shew that Aristotle's theory of soul as the *truth* of body gets over in many ways the dualism of popular psychology, and that his theory of creative reason, as the faculty of the *a priori* conditions of experience, solves to some extent the contradictions of his philosophy.

The translation seeks to be as literal as the Greek of Aristotle renders practicable. But in dealing with a writer whose works are of so fragmentary a nature as Aristotle's are, leave must be given to supply the links of thought by which his notes are to be connected and to expand at times a single particle into a sentence.

I have appended a list of some of the chief recent works dealing with Aristotle's Psychology—most of which have helped me in some way or other in arriving at my conclusions. The list allows of abbreviated references in the Introduction and Notes, and may be useful to some readers. I am indebted to my friend, Mr J. COOK WILSON, Fellow and Tutor of Oriel College, for many valuable hints in connection with the Introduction; and to my brother, Mr WILLIAM WALLACE, Fellow and Tutor of Merton College, for various suggestions in the Translation. My special thanks are due to the Syndics of the Cambridge University Press for their liberality in undertaking the publication of the volume. Would that I could thank particularly a late member of their body—the Rev. W. M. GUNSON, of Christ's College—for the care he took in arranging preliminaries for me. His melancholy end made it impossible for me to consult him on some points where his shrewd insight would have been invaluable.

OXFORD,

May, 1882.

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INTRODUCTION.

I. THE PSYCHOLOGICAL TREATISES OF ARISTOTLE AND THEIR RELATION TO HIS OTHER WORKS.

PSYCHOLOGY is not the science which the name of Aristotle most immediately suggests. We think of him as the author of that exhaustive analysis of thought and reasoning which we know as Logic, as the encyclopædic worker who first mapped out with any definiteness the limits of first philosophy or metaphysic, or as the writer of that most suggestive text-book of the moralist—the *Nicomachean Ethics*. But, if psychology be not so directly associated with the name of Aristotle, there can be no doubt but his labours first gave a satisfactory basis for a science dealing with the problems which we now describe as psychological. He is, in short, the founder of Psychology just as surely as he is the founder of Logic: or, at any rate, it is to Aristotle that we owe the first clear conception of a science which should confine itself to the phenomena connected with what we may for the moment call the mind. There had, it is true, been scattered remarks upon psychology spread throughout the observations of the pre-Socratic thinkers: and Plato had not only discussed such questions generally in his writings, but had devoted great part of several dialogues—especially the *Phædrus*, *Phædo* and *Timæus*, to this subject.

It had only been however in connection with other problems that the phenomena of mind had been discussed : and in Plato particularly the treatment of the question had been obscured by semi-mythical and mystical reflections which detracted from the value of his observations. It is different when we come to Aristotle. Not indeed that Aristotle views the subject in the abstract manner which would be expected from a modern inquirer. But, at the same time, as contrasted with the form of earlier theories, the psychological writings of Aristotle display a surprising power of isolating various phases of life and mind, without at the same time losing sight of their connection with allied phenomena. The same combination of analysis and synthesis which enabled him in dealing with moral facts to draw a line between Ethics and Politics¹ and yet recognise their essential unity, allowed him to study psychology in the abstract manner which the idea of a science renders necessary and at the same time give full weight to all those cognate circumstances which form as it were the setting of the conceptions of the special science.

These psychological writings comprehend a considerable number of distinct treatises. But there is one among them which may be regarded as the parent of the others. The Psychology proper (*De Anima*, as we generally call it), contains within the compass of some eighty or ninety pages the chief points in the psychological doctrine of Aristotle. It consists, as usually divided, of three books ; of which the first is in the main a historical retrospect of pre-Aristotelian psychology, the second lays down the famous definition of the Soul and analyses at some length the faculties of sense-perception, while the third, if we regard the first and second chapters as belonging to the second rather than to the third book, is chiefly occupied

¹ *Eth. Nic.* VI. 8. I. 1141^b23, ἔστι δὲ καὶ ἡ πολιτικὴ καὶ ἡ φρόνησις ἡ αὐτὴ μὲν ἔξις, τὸ μέντοι εἶναι οὐ ταὐτὸν αὐταῖς—i.e. the moral ideal for the individual and for the state is one and the same, but its manner of realization (τὸ εἶναι) is different. Cp. X. 9. 1181^b15, where the whole science is named ἡ περὶ τὰ ἀνθρώπινα φιλοσοφία.

with the phenomena of thought and will. Comprehensive however as is Aristotle's main work on Psychology, it leaves almost untouched a number of subsidiary but important questions which require to be discussed in various supplementary treatises. These supplementary writings constitute the opuscles commonly grouped together as the *Parva Naturalia*. Prominent among them is the little work on Sense-Perception, a tract which deals particularly with the phenomena of sight, taste and smell, and expands the somewhat meagre analysis of these senses given in the Psychology itself. Following this comes the little work on Memory and Reminiscence, a very golden tract as Titze calls it, in which the laws of association are laid down with a clearness scarcely to be looked for outside modern philosophy. Next we meet with a trio of treatises connected with the phenomena of sleep and dreams, and which are severally entitled 'on Sleep and Waking,' 'on Dreams' and 'on Divination through Dreams.' The quasi-physiological character of the last-named treatises is continued in the works which follow and which deal with the phenomena of growth and life, of breath and death. The works in question are more accurately known as those on 'Longevity and Short Life,' on 'Life and Death,' and cognate subjects, and lastly that on 'Respiration'¹.

¹ These minor psychological writings may be here briefly tabulated as follows :

- a. *περὶ αἰσθήσεως καὶ αἰσθητῶν.*
- b. *περὶ μνήμης καὶ ἀναμνήσεως.*
- c. *περὶ ὕπνου καὶ ἐγρηγόρσεως.*
- d. *περὶ ἐνυπνίων.*
- e. *περὶ τῆς καθ' ὕπνον μαντικῆς.*
- f. *περὶ μακροβιότητος καὶ βραχυβιότητος.*
- g. *περὶ ζωῆς καὶ θανάτου.*
- h. *περὶ ἀναπνοῆς.*

To these is sometimes added another tractate under the title *περὶ νεότητος καὶ γήρως*, as corresponding with the first two chapters of the *περὶ ζωῆς καὶ θανάτου*. But it would seem that we cannot in this way precisely distinguish between the separate portions of the *Parva Naturalia*: rather Aristotle intended the subjects of youth and age, life and death, to be discussed *together* in the sections which precede the work on

The genuineness of the works just mentioned has been seldom or never questioned. It is difficult, indeed, to find in the Catalogue of Aristotle's writings transmitted to us by Diogenes Laertius, a counterpart either to the *Psychology* itself or to the minor psychological treatises, but this is a difficulty which meets us in connection with all the writings of the Stagyrte, and is not peculiar to his compositions on *Psychology*¹. Nor, it need scarcely be added, are the psychological writings without the distinctive characteristics which are wont everywhere to disturb the Aristotelian student. We are met by the same abruptness, the same incompleteness on the one hand, redundancy on the other, as present themselves in the *Metaphysics* or the *Ethics*. Torstrik particularly has sought to make out the existence of a double version, a twofold recension in the *Psychology*: but this subject is too closely bound up with the general question of the composition of Aristotle's writings to be summarily settled in a general discussion such as this is meant to be². A still more sweeping charge was made by Weisse in questioning altogether the genuineness and authenticity of the third Book. But his view has never been accepted by Aristotelian scholars: and though few would refuse to acknowledge that the book in question is full of peculiar

respiration, which itself is regarded as a direct continuation of the foregoing discussion. Thus the treatise on life and death, after noting the influence of cold on animals and plants, ends by saying that this subject must be discussed at greater length; and we are thereupon introduced to the tract on respiration with the words: *περὶ γὰρ ἀναπνοῆς ὀλίγοι μὲν τινες τῶν πρότερον φυσικῶν εἰρήκασιν*. So also Aristotle closes the *Parva Naturalia* at 480^b21 by saying: *περὶ μὲν οὖν ζωῆς καὶ θανάτου καὶ τῶν συγγενῶν ταύτης τῆς σκέψεως σχεδὸν εἰρηται περὶ πάντων*.

¹ To the *περὶ ψυχῆς* possibly correspond in the Catalogue of Diogenes No. 13, *περὶ ψυχῆς* α: 73, *θέσεις περὶ ψυχῆς* α. To the *Parva Naturalia* would seem to correspond 120, *φυσικῶν κατὰ στοιχείον* λη: while further in 117 *μνημονικὸν* α we may perhaps recognise our *περὶ μνήμης*. With respect to the general discrepancy between the works of Aristotle as named by us and catalogued by Diogenes Laertius, it may be some slight solution to remember that Aristotle himself frequently alludes to his writings, or rather parts of them, under very different designations from those which we employ. So, for instance, various portions of the *Physics* are cited as *ἐν τοῖς περὶ κινήσεως*—*ἐν τοῖς περὶ ἀρχῶν*—*ἐν τοῖς περὶ χρόνου*.

² See the Appendix.

difficulties, there seem to be no good grounds for doubting its Aristotelian origin¹.

There are however other psychological writings commonly included in the works of Aristotle whose authenticity is much more open to dispute. Such for example is the work on Physiognomics, a tractate specially connected with the relation between the internal feelings and their outward expression². To the same class of spurious or semi-spurious writings belong the treatises on Colours and on Sounds³, and lastly the little work on Animal Movement⁴. This last-mentioned dissertation is of particular importance for Aristotelian psychology: and M. Barthélemy St Hilaire has not hesitated to include it in his translation of the *Parva Naturalia*. But though the work just mentioned throws no inconsiderable light upon Aristotle's theory of will and his general conception of the relation between motives and action, it is yet, almost without doubt, not even Aristotelian in the sense in which other works commonly ascribed to Aristotle are said to be so.

Thus far we have confined ourselves to Aristotle's actually extant works. But there is another work of which some fragments have been handed down which cannot be left altogether out of sight. This is the Dialogue *Eudemus*—a dialogue, which, as its second title indicates, was devoted to questions of psychology⁵. Into the nature of these dialogues, and particularly their identification with the so-called exoteric writings, this is not perhaps the place to enter⁶. But it seems difficult in the face

¹ For Weisse's argument see his translation p. 278, and for an answer Schmidt in *Jahrbücher für wissenschaftliche Kritik*, Aug. 1831.

² *Φυσιognομικά*: printed in Bekker's Berlin Aris. p. 805. Such a work is catalogued by Diogenes No. 109: but the existing compilation is almost unanimously judged spurious. See Rose, *De A. Libr. Ordine*, pp. 221—225.

³ *περὶ χρωμάτων: περὶ ἀκουστών ἢ περὶ φωνῆς*.

⁴ *περὶ ζώων κινήσεως*. See Rose (*De Aris. Libr. Ord.* 163). The work *περὶ ζώων πορείας* (*De Animalium Incessu*) is on the other hand generally regarded as authentic.

⁵ *Εὐδήμιος ἢ περὶ ψυχῆς*.

⁶ See Bernays, *Dialoge d. Aris.* pp. 14—42, Heitz, *Verlor. Schriften*, pp. 199—201, and cp. *De Anima* I. 4, 407^b30 and III. 9, 432^a26. The fragments are printed in the Appendix.

of almost continuous tradition to set aside the Aristotelian character of this and other dialogues ascribed to Aristotle. Rose (*Aris. Pseudepigraphus*, p. 58) has indeed maintained that no dialogue whatever, least of all 'the puerile argument of Eudemus,' is worthy of Aristotle either in his earlier or his later years, and has regarded the ascription of such writings to the Stagyrte himself as due simply to the capricious judgment of Aristotelian Librarians. But though the fragments of the *Eudemus* which have been preserved for us contain little but what is more or less fantastic or commonplace, it must be remembered that we have but little of the main argument of the *Dialogue* itself, and that it is the introduction and setting of the discussion which has been particularly handed down. A dialogue on immortality would naturally touch upon the supernatural and mythical: but it would probably also supply a real psychological foundation for the belief. And in one passage to which Bernays, as might be expected, attaches considerable importance, the dialogue (whoever was its author) follows the same line of argument as that of the main treatise on psychology, and seeks to shew that the explanation of the soul as 'harmony' cannot hold out on examination. But, as will be shewn in the note upon the passage, the similarity thus presented by no means necessitates a conclusion such as that which Bernays would extract.

There are, it need scarcely be said, a great many other works of Aristotle which the student of Aristotelian psychology will find it necessary to consult. The part always implies the whole; and no section of Aristotelian thought can be understood without reference to the whole of which it is a fragment. The *Metaphysics* must be repeatedly consulted in order to elucidate the formulæ through which Aristotle explains the relations which subsist between the body and the mind. The *Organon*, as a system of logical analysis, often helps by the account it gives of the origin of knowledge to explain the work of reason in the formation of an intelligible world. Logic and Psychology, in short, interpenetrate one another in Aristotle just as they have always done

in modern thought. The *Rhetoric* again forms as it were an appendix to the *Psychology* by means of that analysis of the emotions which is one of its most important features, and which helps to bring together psychology and ethics. The *Ethics* themselves too stand in close connection with the psychological doctrines of Aristotle: they may in fact be looked upon as a series of conclusions based upon the results of the *Psychology*. Still more striking is the connection on the part of the physical treatises. The distinctively biological and zoological works throw constant light upon the conditions under which animal organisms and, simultaneously, mental faculties come into existence, while the highly interesting chapters on the *Parts of Animals* supply us with the clearest statement of that teleological standpoint from which Aristotle continually holds problems of life and mind require to be considered.

The chronological position which these various works occupy, firstly by themselves and secondly in relation to the *Psychology*, is a question on which it is impossible to arrive at any very definite results. A variety of circumstances makes it almost impossible to determine the precise order in which Aristotle actually composed the writings which have come down to us. We must, to begin with, remember that the way in which the works originally shaped themselves in rough drafts or only in the writer's mind may not at all correspond with the order in which they were written down for such 'publication' as we can assign to them. Besides, the wish to give a systematic appearance to his works may have led the writer frequently to employ a future in referring to a work which was already written, or a past in referring to one which in the order of thought preceded that with which he was for the moment occupied, but of which the composition was for the time deferred. At any one time Aristotle would probably be working *simultaneously* on different subjects, and thus two treatises will frequently create confusion to the student who is seeking for a chronological arrangement and who finds now *A* implying *B*, now *B* involving *A*. Another point to

be considered is that what we speak of as a *single* work was probably to Aristotle a series of single works which he had gradually accumulated in his lifetime. Both the *Ethics* and the *Metaphysics* were probably writings of this character, and it is perfectly consistent that we should find in them marks of priority to some other writing, side by side with equally definite marks of posteriority. Lastly we must remember that everything points to the fact that Aristotle's works are in great part lecture notes, written perhaps in great part by himself, but supplemented by the editors from the notes which pupils had taken at his lectures. This and like considerations should make it evident that we have not really the data for settling with any accuracy the composition of Aristotle's works¹. Supposing the different treatises to have formed distinct courses of lectures, we can easily understand how the writer might from time to time vary the order in which his courses were delivered, and might to one set of students speak of the *Topics* as prior to the *Analytics*, to another might reverse this order; and how in this manner what had been merely an accidental reference, relative to special circumstances, would become fixed as an integral part of the discussion².

Such considerations would seem to make it almost hopeless to attempt to fix the order of the works of Aristotle. But there are some general results which may be accepted as at least extremely probable. It would appear for instance that Aristotle commenced by composing works of a mixed logical and rhetorical character; and Rose is most probably correct in viewing the

¹ Cp. Susemihl in his Introduction to the *Poetics*, who compares the probable origin of Aristotle's writings with the way in which Hegel's works were supplemented by the notes of pupils.

² For the way in which the *Analytics* and *Topics* thus reciprocally seem to involve each other, contrast *Anal. Pr.* I. 1, 24^b12 (καθάπερ ἐν τοῖς Τοπικοῖς εἴρηται): c. 30 46^b30 (δὲ ἀκριβέας δὲ διεληλύθαμεν ἐν τῇ πραγματείᾳ τῇ περὶ τὴν διαλεκτικὴν): II. 15, 64^a37 and II. 17. 65^b17 with *Topics*, VIII. 11. 162^a11 (φανερὸν δ' ἐκ τῶν ἀναλυτικῶν): and VIII. 13. 162^b32, τὸ δ' ἐν ἀρχῇ...κατ' ἀλήθειαν μὲν ἐν τοῖς Ἀναλυτικοῖς εἴρηται, κατὰ δόξαν δὲ νῦν λεκτέον. [Cf. Ritter, III. 29.] For other instances see Zeller, *Phil. d. Griechen* II. 2 (2^{te} Aufl.) p. 105, n. 2.

Topics as the earliest work which Aristotle wrote¹. This was followed by the *Analytics*, and probably at no long interval by the treatise on *Rhetoric*². These works on method would appear to have been followed by the ethical and political writings as Rose supposes, rather than by the physical as Zeller holds, although it is not unlikely that *part* of the *Ethics* followed on the physical investigations³. To the *Ethics*, *Politics* and *Poetics* (as a combination of the educational scheme enunciated in the

¹ Cp. Rose, *De Aris. Libr. Ordine*, p. 119. Zeller, *P. d. G.* II. 2. 105, regards the *Categories* as the first work Aristotle wrote, but as the *Categories* makes no reference to any other works it is extremely difficult to decide its place in chronological sequence, and Rose regards it as spurious. The *Categories* (if really Aristotle's) seems to have been composed after the *De Anima*: at least in 16⁸ the writer, speaking about words as signs of thoughts, says *περὶ μὲν οὖν τούτων ἐρηται ἐν τοῖς περὶ ψυχῆς*. But the reference fits neither *de An.* III. 6 (Waitz) nor *de An.* II. 5 (Bonitz), and is more probably added by an editor or pupil.

² So at least Rose thinks. Zeller, because the *Rhetoric* at its beginning (1356²⁶) describes itself as an offshoot (*παράφυς*) of politics and because in I. II. 1372^a1 the writer says of *γελοῖα*, *διώριστα δὲ περὶ γελοίων χωρὶς ἐν τοῖς περὶ ποιητικῆς*, holds that the *Rhetoric* was compiled after the *Ethics* and *Physics*, and occupies about the last place chronologically among the works of Aristotle. But he fails to notice that Aristotle no less speaks of *Rhetoric* as equally the *παράφυς* of *Dialectic* (the *Topics*), and the reference to the *Poetics* counts for little, as the *Poetics*, as we have it, contains no such passage. Zeller allows himself that in *Rhetoric* III. I. 1404^b22, Aristotle speaks of Theodorus the actor as if he were still alive, while in *Polit.* VIII. 17. 1336^b27 he is treated as dead. Besides, as Rose points out (p. 122), the treatment of moral questions in the *Rhetoric* is only intelligible on the assumption that it was written before the *Ethics*. So, for instance, is it with the discussion of the good (I. 6, 7), of the virtues (I. 9, I. 8), of pleasure (I. 4), and of similar topics. The probability in fact is that the *Rhetoric* was quite one of the earliest works which Aristotle sketched out; and that in his early lectures against the false theories of Isocrates he already conceived the ideas which were to develop into his Logical and Ethical Theory.

³ Zeller (p. 107) has maintained the priority of the Physical to the Ethical writings on the ground that a writer who felt so strongly as Aristotle that a moralist must have a knowledge of the soul (*Eth. Nic.* I. 13) would not be likely to investigate questions of Ethics before he had elaborated a psychology: and he finds traces of such reference to the *Ethics* in the *ἐξωτερικοὶ λόγοι* of I. 13 and the *τέταρτον μόριον* of VI. 13. 1144^a9. But any unprejudiced reader will find in the reference to the *ἐξωτερικοὶ λόγοι* a reference not to the *de Anima* but to the popular psychology which is criticised in the *de An.*, and the *τέταρτον μόριον* of Bk. VI. may mean that that particular book was written subsequently to the *Psychology*, but is also perfectly explicable from the double twofold division of the *ψυχῇ* in Bk. I. Bk. x. however, which refers to chapters on *κίνησις* in discussing pleasure, would seem to have been composed at a later period than the remainder of the work.

last chapters of the *Politics*) must have followed, not, as Rose so learnedly maintains, the *Metaphysics*, but the works on what may briefly be described as Natural Philosophy¹. Among these works on Natural Philosophy, the *Physics*, as we usually call it, occupied the foremost place. This, as is clearly indicated in the first lines of the *Meteorology*, was followed by the Treatise on the Heavens (*De Cælo*), the dissertation which we commonly designate *De Generatione et Corruptione*, and lastly the *Meteorology* itself². Thus far the order of the physical investigations is not difficult to trace. But whether the *Meteorology* was followed by the *History of Animals*, or by the *Psychology*, is a question which cannot be easily resolved. Perhaps we may best hold with Zeller that the *History of Animals* was *begun* before the *Psychology*, but that on the other hand it was not completed till the last-named work had seen the light³. But whatever be the true

¹ That the *Metaphysics* did not as Rose thinks (p. 136) precede but succeed the physical writings is already indicated by *Physics* I. 9, 192^a34, *περὶ δὲ τῆς κατὰ τὸ εἶδος ἀρχῆς... δι' ἀκριβείας τῆς πρώτης φιλοσοφίας ἔργον ἔστι διορίσαι, ὥστε εἰς ἐκεῖνον τὸν καιρὸν ἀποκεῖσθαι*. But this does not preclude us from supposing that the metaphysical system of Aristotle was gradually elaborating itself in the writer's mind and probably forming repeatedly the subject of his lectures so that its distinctive doctrines would be continually implied in what Aristotle wrote.

² *Meteorolog.* I. 1, 338^a20, *περὶ μὲν οὖν τῶν πρώτων αἰτίων τῆς φύσεως καὶ περὶ πάσης κινήσεως φυσικῆς, ἔτι δὲ περὶ τῶν κατὰ τὴν ἄνω φορὰν διακεκοσμημένων ἄστρον καὶ περὶ τῶν στοιχείων τῶν σωματικῶν πῶσα τε καὶ ποῖα... καὶ περὶ γενέσεως καὶ φθορᾶς τῆς κοινῆς εἴρηται πρότερον*.

³ See Zeller, p. 106, n. 5. Rose (p. 212) concludes from VIII. 9 and II. 5 of the *Hist. Anim.* that it must have been composed some time after the battle of Arbela, at which elephants were seen for the first time by the Macedonians.—The passages in which the *Psychology* makes reference to other works are the following :

Bk. I. c. 3, 406^a3, *ὅτι μὲν οὖν οὐκ ἀναγκαῖον τὸ κινεῖν καὶ αὐτὸ κινεῖσθαι πρότερον εἴρηται* : where the reference is probably not to 403^b29 but to *Physics* VIII. 5.

Bk. II. c. 4, 416^b30, *διασαφητέον δ' ἐστὶν ὕστερον περὶ αὐτῆς ἐν τοῖς οἰκείοις λόγοις* (where the writer may refer to a lost treatise *περὶ τροφῆς* or to *De Gen.*).

II. 5, 417^a1, *τοῦτο δὲ πῶς δυνατόν ἢ ἀδύνατον εἰρήκαμεν ἐν τοῖς καθόλου λόγοις περὶ τοῦ ποιεῖν καὶ πάσχειν* : the reference being to *De Gen.* Bk. I. c. 7.

II. 5, 417^a17, *ἔστιν ἡ κίνησις ἐνέργειά τις, ἀτελὴς μέντοι, καθάπερ ἐν ἑτέροις εἴρηται*, refers to *Phys.* III. 2, 201^b31.

II. 5, 417^b29, *περὶ μὲν τούτων διασαφήσαι καιρὸς γένοιτ' ἂν καὶ εἰσαυθις*, refers most probably to *De An.* III. cc. 4 and 5.

II. 7, 419^a7, *δι' ἣν μὲν οὖν αἰτίαν ταῦτα ὁρᾶται ἄλλος λόγος*, refers to *De Sensu* 2, 437^b5.

relation of the *Psychology* and the *Zoology*, there can be no doubt but the composition of the former was followed closely by that of the minor psychological writings classed together as the *Parva Naturalia*: although it would seem that we must draw a distinction among these and allow that while some were composed *before*, others were composed only *after* the Biological Treatises, which would seem to occupy the next place in the series of Aristotle's works¹. These biological treatises are the highly interesting and suggestive chapters on the *Parts of Animals*, the tractate on *Animal Progression*, and lastly the work upon the *Generation of Animals*². The list most probably closed with the *Metaphysics*—that is to say, it was the last of Aristotle's works to be brought into anything like its present shape—although we must of course remember it must have been one of the earliest works of which Aristotle sketched the main ideas³.

II. II, 423^b29, λέγω δὲ διαφορὰς αἱ τὰ στοιχεῖα διορίζουσι, θερμὸν ψυχρὸν, ξηρὸν ὑγρὸν, περὶ ὧν εἰρήκαμεν πρότερον ἐν τοῖς περὶ στοιχείων, refers to *De Gen.* Bk. II. C. 2.

III. 9, 432^b11, περὶ δὲ ἀναπνοῆς καὶ ἐκπνοῆς καὶ ὕπνου καὶ ἐγρηγόρσεως ὕστερον ἐπισκεπτέον.

III. 10, 433^b18, ᾧ δὲ κινεῖ ὄργανον ἢ ὁρεῖς ἤδη τοῦτο σωματικόν ἐστιν διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτοῦ—about which see the note upon the passage.

¹ For the different references in the *Parva Naturalia* see Bonitz, Index Aris. p. 99. For the view that the *Parva Naturalia* may be in point of composition broken up into two groups in the manner indicated see Brandis, Aristot. 1192. The grounds of this view are that in *De Vita* 468^b31 and *De Respir.* c. 7, 473^a27 the writer refers to the Treatise on Parts of Animals as already written: treats 467^b6, the Inquiries on Life and Death, as concluding all his works on Animals, and in *De Gen. An.* IV. 10, 777^b6 (αἰτίον δὲ τοῦ μὲν εἶναι μακρόβιον ὅτι οὖν ζῶν...περὶ ὧν ὕστερον ἐροῦμεν) regards the treatise on Longevity as still to be written.

² That the treatise on the Parts of Animals is prior to that on the Generation of Animals is evident from *De Gen. An.* I. 15, 720^b19, ἡ γὰρ φύσις παρὰ τὸ στόμα τὴν τελευταίην τοῦ περιττώματος συνήγαγε κάμψασα καθάπερ εἴρηται πρότερον ἐν τοῖς περὶ τῶν μορίων λόγοις—*De Part. An.* III. 5, 668^a8, πῶς μὲν οὖν τρέφεται τὰ ζῶα...ἐν τοῖς περὶ γενέσεως λόγοις μᾶλλον ἀρμόζει σκοπεῖν κ.τ.λ.

The work *De Incessu Animalium* is referred to in *De Part. An.* IV. 11 690^b15, ἡ δ' αἰτία τῆς ἀποδίας αὐτῶν εἴρηται ἐν τοῖς περὶ τῆς πορείας τῶν ζῶων διωρισμένοις.

³ That the *Metaphysics* is among the later works of Aristotle is clear *inter alia* from the fact that Aristotle in *Meta.* A. 1, 981^b25 says εἴρηται μὲν οὖν ἐν τοῖς Ἑθικοῖς τίς διαφορὰ τέχνης καὶ ἐπιστήμης, and in A. 4, 985^a12 he refers to the *Physics* as

The *Psychology* of Aristotle thus stands, when looked at in connection with its probable date of composition, midway between the material renderings of physical science and the more ideal tendencies of metaphysic. And this double aspect which the treatise thus chronologically presents will be found to be entirely in agreement with Aristotle's conception of psychology and the work of the psychologist.

II. THE SCOPE AND METHOD OF PSYCHOLOGY AS CONCEIVED BY ARISTOTLE.

Aristotle's conception of Psychology is already stated for us in the opening words of his main treatise on the subject. It is, he tells us, a 'history of the soul' (*ἱστορία ψυχῆς*) which he proposes to put before us. This word 'history,' it is true, did not convey to Aristotle the same associations as it bears to us. To him it meant simply a description, an account: it was a collection of observations which had scarcely reached the exact deductive character which would constitute them into the form of a science (*ἐπιστήμη*)¹. Afterwards indeed we shall find that Aristotle does determine the object matter of his investigations in such a manner as to raise the results of his observations into real scientific form. But, at starting, Aristotle has to feel his way towards the nature of the problems which will fall within the new field of knowledge which he is elaborating.

The historical development and the essential nature (*φύσις καὶ οὐσία*) represent the two aspects of the soul which the psychologist, according to Aristotle, must consider. He must, that is to say, supply on the one hand a genetic history of the soul,

preceding the *Metaphysics*: οὗτοι μὲν οὖν ὥσπερ λέγομεν καὶ μέχρι τούτου δυοῖν αἰτίαι ἐφύψαντο ὧν ἡμεῖς διωρίσαμεν ἐν τοῖς περὶ φύσεως. So also Bk. M. 1076^b8, περὶ μὲν οὖν τῆς τῶν αἰσθητῶν οὐσίας εἴρηται τίς ἐστὶν ἐν μὲν τῇ μεθόδῳ τῇ τῶν φυσικῶν περὶ τῆς ὕλης, ὕστερον δὲ περὶ τῆς κατ' ἐνέργειαν.

¹ For this conception of *ἱστορία*, v. *Anal. Pr.* I. 31, 46^a24, and *Hist. An.* I. 6, 491^a12.

trace it in its gradual development from simpler to more complex forms; and on the other hand he must add to such an historical and genetic analysis the logical exposition of the constant essential nature which belongs to soul at once in its lower and its higher forms. But the psychologist is to be no abstract student of the soul. He must proceed to note its different properties, and study the phenomena occurring in connection with it whether they be exclusively psychical or shared in common by the animal organization¹.

The method of the new science which he is constructing is another preliminary question which Aristotle finds it somewhat difficult to answer. How, he asks, are we to gain a knowledge of this soul? or what is to provide us with a ground of certainty (*πίστις*) for our conclusions? The question which Aristotle thus raises cannot be said to be anywhere answered by him. The unnecessary distinction between observation and consciousness, as it is frequently maintained, fortunately did not present itself to his mind, or at least nothing which he says enables us to class him either with those who regard internal introspection or those who view external observation as the method of psychological inquiry. Nor does Aristotle ever seem to have determined for himself how far the method of psychological investigation was to be regarded as identical with that of other forms of scientific knowledge. The object of inquiry in psychology is indeed, he remarks, identical with that of any other science, and therefore it seems natural to expect that the method of investigation will be also similar: but it may also be that the method of inquiry varies with the nature of the object under consideration, and thus it will be necessary to find out what this method is—whether ‘deductive argument’ or ‘Platonic division’ or some other form of investigation, and further what are the principles from which such method will begin its reasonings.

To questions such as these, Aristotle, as has been already implied, returns no immediate answer. Instead, he proceeds to

¹ *De An.* I. 1, 402^a1—10.

enumerate the different problems to which the science must some way or other find an answer. *Solvitur ambulando* would seem to be briefly the reply he would give to the doubts which the logician might raise about the mode in which the study of psychology should be pursued. And, at any rate, the method of the science, he implies, cannot be ascertained until we have acquired a closer knowledge of the problems which it seeks to solve. To Psychology, in fact, Aristotle would seem to apply the same principle as he applies to Ethics: its principles and results must be discovered and pursued after the manner in which nature evidently shews they should be studied¹. And it is therefore necessary to come to an understanding as to *what* we have to study before we can be sure of *how* we are to proceed in our investigation.

The problems which Aristotle proposes for the consideration of the psychologist have, in the midst of much that sounds rather antiquated to our ears, many points that are still possessed of real interest. The student of soul, he tells us, must note what is the class or genus under which soul falls, and particularly must discover whether it is some potential form of existence, or, on the other hand, a fully realized form of activity. Again, is soul homogeneous in all its various forms, and, if not so, are the various classes of soul distinguished by a generic or specific difference? "for at present," Aristotle adds, "writers who investigate the soul seem to confine their observations to the soul of man alone²." A difficulty not far removed from that just mentioned is concerned with the relation of the definition to the soul, and the degree to which such definition can express the qualities belonging to soul in its general characteristics. Further, we require, he thinks, to examine the relation of the faculty or organ to the operation of the faculty, and see whether it be reason or thinking, sense or perceiving that first claims analysis.

¹ *Eth. Nic.* I. 7, 1098^b5, μετέναι δὲ πειρατέον ἐκάστας (τὰς ἀρχὰς) ἢ πεφύκασιν.

² 402^b2, οὖν μὲν γὰρ οἱ λέγοντες καὶ ζητοῦντες περὶ ψυχῆς περὶ τῆς ἀνθρωπίνης μόνως ἐόλκασιν ἐπισκοπεῖν.

The relation of soul and body appears above all to Aristotle a subject which the psychologist cannot afford to leave unnoticed. The greater number of our mental states seem, he insists, to depend upon some conditions of our bodily organs: and even if thought be allowed to be something which is unconnected with the phenomena of body, still, most of our mental manifestations—anger, desire, sense-perception, &c.—would seem to be accompanied by some condition of our corporeal organism, and even thought itself would seem to depend upon the sensuous pictures of imagination, and thus similarly imply a bodily concomitant¹. A variety of facts, in short, Aristotle holds, would seem to bear witness to the close connection which subsists between the phenomena of soul and the processes of body, and thus make it necessary that the two orders of facts should be studied in relation to each other.

Psychology, with Aristotle, thus falls to a great extent under the comprehensive science of natural philosophy (*φυσική*)². It must however be remembered that physic or natural science meant to Aristotle something very different from what it commonly means to us. His physic is the science which considers the qualities of body not in their abstract features but rather in their concrete manifestations. When Aristotle sets himself to study a subject physically (*φυσικῶς*) he investigates it, as we should say, concretely—with no one-sided consideration of the facts but with an all-embracing comprehension of the different aspects of the problem³. With Plato in the *Phædrus* (270 C) he believes it is impossible to study properly the nature of the soul apart from any reference to the rest of nature (*ἄνευ τῆς τοῦ ὅλου φύσεως*).

Physic then in Aristotle does not, like Metaphysic, deal with

¹ 403^a16, *ἔοικε δὲ καὶ τὰ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματος, θυμός...καὶ τὸ φιλεῖν τε καὶ μισεῖν κ.τ.λ.*

² *De Part. An.* I. 1, 641^a21, τοῦ φυσικοῦ περὶ ψυχῆς ἂν εἴη λέγειν καὶ εἰδέναι. 403^a27, καὶ διὰ ταῦτα ἥδη φυσικοῦ τὸ θεωρῆσαι περὶ ψυχῆς.

³ For this sense of *φυσικῶς* cp. *Eth. Nic.* VII. 3, 1147^a24 : *Phys.* II. 7, 198^a23. So it is contrasted with *λογικῶς* *De Gen.* I. 2, 316^a10.

those attributes of being which are immutable and separated from any material expression, nor like mathematic with those which while unchangeable are yet to a greater or less degree materially expressed: it investigates, upon the contrary, those which are at once mutable and inseparable from some material embodiment¹. It relates particularly to those objects which possess an intrinsic capacity of movement: it is, we may almost say, the science of phenomena of movement². But the Aristotelian physic is not a hasty materialism which states nothing but the fabric out of which the organism has to be constructed. It has to do with all the four principles or 'causes' into which Aristotle supposed the existence of every object could be analyzed—the material as supplying the actual elements out of which anything is made, the efficient, or agency by which it is made, the formal as giving the shape or idea which any object expresses, and the final cause or the intrinsic end which any form of existence seeks to realize³. "The physicist," says the sixth Book of the *Metaphysics*, "should possess knowledge not only of the material but also of the matter in relation to the definition which expresses its real notion, and particularly in fact this latter⁴." And to the same effect the Treatise on the Parts of Animals maintains that a true physical philosophy must content itself with no mere abstract statement of the material elements of which a phenomenon is composed or of the stages through which an object must have passed before it reach its final form. Such an analytic and genetic science is, says

¹ *Metaph.* E. I, 1026^a13, ἡ μὲν γὰρ φυσικὴ περὶ ἀχώριστα μὲν ἀλλ' οὐκ ἀκίνητα, τῆς δὲ μαθηματικῆς ἕνια περὶ ἀκίνητα μὲν οὐ χωριστὰ δ' ἴσως, ἀλλ' ὡς ἐν ὕλῃ· ἡ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα. Cp. *Metaphys.* K. 4, 1061^b30; *Id.* K. 7, 1064^a15.

² *Metaphys.* K. 7, 1064^a30, ἡ μὲν οὖν φυσικὴ περὶ τὰ κινήσεως ἔχοντ' ἀρχὴν ἐν αὐτοῖς ἐστίν.

³ *Phys.* II. 7, 198^a22, ἐπεὶ δ' αἱ αἰτίαι τέτταρες, περὶ πασῶν τοῦ φυσικοῦ εἰδέναι, καὶ εἰς πάσας ἀνάγων τὸ διὰ τί ἀποδῶσει φυσικῶς, τὴν ὕλην, τὸ εἶδος, τὸ κινήσαν, τὸ οὐ ἕνεκα. So also 200^a32 and 194^a6.

⁴ *Meta.* Z. II, 1037^a16, οὐ γὰρ μόνον περὶ τῆς ὕλης δεῖ γνωρίζειν τὸν φυσικὸν ἀλλὰ καὶ τῆς κατὰ τὸν λόγον καὶ μᾶλλον.

Aristotle, little better than would be the carpenter's explanation of a wooden hand: nay, indeed, Aristotle with quiet naiveté remarks, the carpenter would give the better explanation of the two, because he would not content himself with an enumeration of the hammer strokes which made a hollow here, an elevation there, but would also state the reason why he aimed the blow in such and such a manner, and for what end his movements were directed. And therefore in attempting to explain the facts of animal existence, physic must not fail to take account of mind as the constitutive form (*εἶδος*) in all living things¹.

Metaphysical and teleological however as is the natural philosophy of Aristotle, it does not itself exhaust the explanation of the soul. Were soul never anything but active, never more than a principle of movement, physic might indeed claim to be competent to discuss it. But so far as soul cannot be so described, so far it ceases to fall within the region of the physicist². It is in fact only these phenomena of soul 'which are not independent of matter' that physic is competent to investigate. And besides, were physic able to deal with all psychical phenomena, there would be really no philosophy beyond a philosophy of nature³.

The truth is that soul cannot according to Aristotle be adequately discussed by either the metaphysical transcendentalist or the physiologist separately. The psychical side of human nature is of so peculiar a character, so independent on the one

¹ *De Partibus An.* I. I, 641^a30, λεκτέον εἴη τῷ περὶ φύσεως θεωρητικῷ περὶ ψυχῆς μᾶλλον ἢ περὶ τῆς ὕλης, ὅσῳ μᾶλλον ἢ ὕλη δι' ἐκείνην φύσις ἐστὶν ἢ ἀνάπαλιν. The whole chapter is valuable for the light it throws upon Aristotle's method of studying nature. Cp. *De Motu An.* 2. 704^b13, where we have the expression μέθοδος φυσικῆ, of which one principle is ἡ φύσις οὐθὲν ποιεῖ μάτην.

² *De Part.* An. I. I, 641^b10, δῆλον οὖν ὡς οὐ περὶ πάσης ψυχῆς λεκτέον· οὐδὲ γὰρ πᾶσα ψυχὴ φύσις.

³ *Meta.* E. I, 1026^a5, περὶ ψυχῆς ἐνίας θεωρῆσαι τοῦ φυσικοῦ ὅση μὴ ἄνευ τῆς ὕλης ἐστίν.

De Part. I. I, 641^a34, εἰ γὰρ περὶ πάσης (τῆς ψυχῆς λέγει ἡ φυσικῆ) οὐδεμία λείπεται παρὰ τὴν φυσικὴν ἐπιστήμην φιλοσοφία. ὁ γὰρ νοῦς τῶν νοητῶν. ὥστε περὶ πάντων ἡ φυσικὴ γνῶσις ἂν εἴη κ.τ.λ.

side of physical surroundings, so connected on the other with physiological processes, that it can only be fully understood through the combined labours of both orders of inquirers. The feelings for example are materialized ideas (λόγοι ἔνυλοι) and can only be understood when their supersensuous aspects are taken in connection with their bodily antecedents. Metaphysic and Physic must in fact be brought together if we would rightly understand the phenomena of mental action. This two-faced character of psychological inquiry Aristotle illustrates for us by a concrete illustration. "Suppose," he says "the question should be what is anger? The transcendentalist (διαλεκτικός) would define it as the effort after retaliation; the natural philosopher would describe it as a ferment of the pericardial blood or heat." But, the writer goes on to imply, the true physicist will take account of both these aspects of our mental states. Just, he explains, as it is an insufficient description of a house to enumerate the stone and timber out of which it is constructed, unless we note as well the cause and reason of its existence as a shelter against injury from winds and rains: so also the true psychologist will recognise the fact that the subjective state and its physical counterpart are only different sides or aspects of one and the same phenomenon—a phenomenon therefore which is only rightly comprehended when its two sides are considered in their mutual influence upon each other¹.

It is but another phase of this same standpoint when Aristotle insists on the need of uniting two modes of psychological investigation which correspond in part to what have since been known as rational and empirical psychology. To grasp the mind in its full meaning we must not, he holds, know it merely as a substance: we must add on a knowledge of the attributes and actions which belong to it. "The truth," says Aristotle, "seems to be that it is not only a knowledge of the generic character of anything which helps towards detecting the causes

¹ 403^b29; διαφερόντως δ' ἂν ὀρίσαιντο φυσικός τε καὶ διαλεκτικός ἕκαστον αὐτῶν, ὅσον ὀργή τί ἐστίν... τίς οὖν ὁ φυσικός τούτων;... ἢ μᾶλλον ὁ ἐξ ἀμφοῖν.

of the properties of substances—as in mathematics the knowledge of straight and curved or the generic character of what is a line or a superficies assists us in seeing to how many right angles the angles of the triangle are equal—but even conversely the knowledge of the properties contributes in great measure to a knowledge of the ‘what’ or the generic notion.” Without in fact this knowledge of the actual manifestations, the varying phenomena in which the soul displays its action, our psychological studies will leave us with the mere empty phraseology of Transcendentalism (διαλεκτικῶς εἴρηνται καὶ κενῶς ἅπαντες)¹.

Aristotle would seem then to take the same view of the study of mind as Hegel has done in a passage of the *Encyclopædia*. “If we propose to think the mind,” we may suppose Aristotle saying with the latter, “we must not be quite so shy of its special phenomena. Mind is essentially active. But if the mind is active, it must, as it were, utter itself. It is wrong therefore to take the mind for a processless *ens* as did the old metaphysic which divided the processless inward life of the mind from its outward life. No good will be done unless the mind be viewed in its concrete reality, in its action: and in such a way that its manifestations are seen to be determined by its inward force².”

The Method of Psychology, as conceived by Aristotle, is, it will now be evident, not to be summed up in any shibboleth of induction or deduction. Assuredly Aristotle’s study of psychology is preeminently inductive. Here, as in *Ethics*, it is the fact which forms the starting point³. Mind and body are, he reasons, intimately as matter of fact connected, and soul must therefore be explained by such a concrete method as will fully recognise its environment. But, at the same time, the real character of any object of investigation is to be found in the consideration of its end: and, so far as this is the case, psychology goes beyond the

¹ I. I, 403^b2.

² *Logic of Hegel*, translated by W. Wallace, § 34.

³ *Eth. Nic.* I. 4, 1095^b6, ἀρχὴ γὰρ τὸ δοῦν.

immediate fact, the simple datum. A natural history of the mind, which traces it in its progress from more elementary to more developed forms, is undoubtedly, Aristotle would have us to believe, a valuable contribution to the theory of psychology. But the whole precedes the part¹, the substance the attributes, and a well-established Science of the Soul must as little fail to account for a something to which these attributes shall be referred as for the attributes themselves which observation registers.

III. THE PRE-ARISTOTELIAN PSYCHOLOGY.

The historical retrospect of previous psychology which occupies the greater portion of the first book of the main treatise illustrates further the comprehensive nature of Aristotle's conception of the science of mind. Here, as in his other compositions, the aim of Aristotle is to shew that the thinkers before him had been too one-sided in their attitude and had thus identified soul with some one characteristic, which was really only a single factor in psychical operations. Just in fact as in the *Metaphysics* Aristotle shews how his predecessors had identified now the matter now the form with real being or true substance, or in the *Ethics* how previous moralists had mistaken virtue or prosperity for the happiness of which they were only sides or aspects: so in the *Psychology* we find him engaged in pointing out the degree to which previous students had confined their attention now to this side, now to that, of psychical phenomena.

Two ways especially of regarding mind are recognised by Aristotle amid the somewhat naive views of previous psychologists. Some of them had emphasized its perceptive and cognitive faculties, others had laid stress on its powers of movement

¹ *Polit.* I. 2, 1253^a20, τὸ γὰρ ὅλον πρότερον ἀναγκαῖον εἶναι τοῦ μέρους.

and active exercise¹. The mind, in other words, had been, if we may employ modern phraseology, identified now with the intellect, now with the will: and the great object of Aristotle's writings on the subject of psychology is to shew that both these aspects of our psychical operations must be taken into consideration—that the mind must be treated not merely as a perceiving, knowing faculty, or as a desiring active faculty, but as the two in combination—as something in fact which is at once cognitive and conative, recipient and active, spiritual and material, intellectual and emotional. Hence it is that he discusses with somewhat wearisome detail the modifications given by Democritus, Pythagoras or Anaxagoras to the view which identified mind with movement and spontaneous action on the one hand and the different explanations of the processes of cognition by Empedocles or Plato on the other. The details of these criticisms must be read in the *Psychology* itself: here it is only necessary to refer to them so far as they seem to throw light on Aristotle's conception of the scope and problem of psychology as we have previously considered it².

The great defect which Aristotle finds in the procedure of previous psychologists is the degree to which they ignored the bodily environment of soul and confined their observations to the nature of the mental operations in themselves. "They attach the soul to the body without trying in addition to determine the reason why or the condition of the body under which such attachment is produced:" and while stating the nature of the soul itself, they determine nothing "with regard to the nature of the body which is to receive it³." Their procedure is thus, Aristotle holds, as inconsistent as the transmigration theories of

¹ *De An.* I. 2, 403^b25, τὸ ἐμψυχον δὴ τοῦ ἀψύχου δυοῖν μάλιστα διαφέρειν δοκεῖ, κινήσει τε καὶ τῷ αἰσθάνεσθαι· παρελήφαμεν δὲ καὶ παρὰ τῶν προγενεστέρων σχεδὸν δύο ταῦτα περὶ ψυχῆς.

² For an exhaustive account of Pre-Aristotelian Psychology see Siebeck's *Geschichte der Psychologie*; Theil i, *Die Psychologie vor Aristoteles* (Gotha, 1880).

³ I. 3, 407^b20, οἱ δὲ μόνον ἐπιχειροῦσι λέγειν πᾶν τι ἡ ψυχὴ, περὶ δὲ τοῦ δεχομένου σώματος οὐθέν ἐστι προσδιορίζουσιν.

Pythagorean schools, reasoning as they do "as if it were possible for *any* soul to clothe itself in *any* body." Soul and body are on the contrary closely adapted to one another, and to disregard the nature of the body which is to be the receptacle of some definite form of soul is as absurd as if we were to speak of the carpenter's art as clothing itself in flutes: the truth being that soul can make use of the body only under the same limitations as those under which an art can make use of its fitting instruments¹.

The Atomists had indeed attempted to explain the relation of the body to the soul: and by their conception of the soul as made up of infinitely small globules like the motes we see in sunbeams, they had sought to explain the way in which it acts upon the body. But their explanation, Aristotle thinks, is ludicrously insufficient. It is in fact, as an explanation of the influence which the mind exercises on the body, no better than that which the comedian Philippus gave of the movements of the wooden Aphrodite of Dædalus when he referred it to an injection of quicksilver. Soul, it seems to Aristotle, does not act on the body in this materialistic machine-like manner; it is through the influence of will and thought (*διὰ προαιρέσεώς τινος καὶ νοήσεως*) that such interaction of soul and body is possible². And in Aristotle's day there was no historian of materialism to add—"as if this were not obvious to the very savage long before science had made the slightest beginning³."

A like antipathy on the part of Aristotle to any crudely materialistic psychology appears in the language which he uses with regard to all attempts to attach physical predicates directly to the mind and to speak of *soul* as being moved or sustaining shocks. Many mental phenomena are indeed, he grants, movements, and thinking no less than anger may depend on certain changes in the organism. "But to describe the *soul* as feeling angry is no more appropriate than to speak of it as

¹ 407^b24, παραπλήσιον δὲ λέγουσιν ὥσπερ εἰ τις φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι.

² I. 3, 406^b24.

³ Lange, *Geschichte d. Materialismus*, 1. 16.

weaving or building. Perhaps, indeed, it is better to say not that the *soul* pities or learns or infers but rather that the man does so through his soul¹. Nor, Aristotle continues, must this be understood as though the process were conducted *in* the mind: all that is meant is that the process sometimes terminates in, sometimes starts from soul. Sense-perception, for example, is an instance of a mental act terminating in mind, because in sense-perception a merely material process has to be brought back to mind and translated into a conscious image: recollection on the other hand is an instance of a process which starts from mind—originates, that is, in a conscious subjective effort to recal a lost idea and ends in the physiological survival of it in our organism².

The unity of the mental phenomena is another point which Aristotle maintains most strongly in the criticisms which he passes on the conceptions of his predecessors. To resolve the soul into the different elements is to lose sight of that combining force, that synthetic agency, which alone can render knowledge possible. Empedocles' theory of cognition is thus a most inadequate expression of our mental energy. It holds that each objective element in nature is known by a corresponding element in mind—earth by earth, water by water, fire by fire. But such disjunction of the different elements loses sight, Aristotle thinks, of just that very point which supplies the rationale of knowledge. It is not the elements but the ratios which subsist between them which enable us to know: so that there is evidently no use of the elements being present in the mind without the different ratios and compositions which especially serve to constitute an act of knowledge³.

¹ I. 4, 408^b11, τὸ δὲ λέγειν ὀργίζεσθαι τὴν ψυχὴν ὁμοίον κἀν εἰ τις λέγοι τὴν ψυχὴν ὑφαίνειν ἢ οἰκοδομεῖν· βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν ἢ μανθάνειν ἀλλὰ τὸν ἄνθρωπον τῇ ψυχῇ.

² 408^b15, τοῦτο δὲ μὴ ὡς ἐν ἐκείνῃ τῆς κινήσεως οὐσης, ἀλλ' ὅτε μὲν μέχρι ἐκείνης, ὅτε δ' ἀπ' ἐκείνης, οἷον ἢ μὲν αἰσθησις ἀπὸ τῶνδ', ἢ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς.

³ I. 5, 410^a7, οὐδὲν οὖν ὄφελος εἶναι τὰ στοιχεῖα ἐν τῇ ψυχῇ εἰ μὴ καὶ οἱ λόγοι

The Platonic psychology supplies materials for a large part of Aristotle's criticisms on the views held by the thinkers of his day respecting soul. The half-mathematical half-metaphysical theories of the *Timæus* meet with little sympathetic treatment at Aristotle's hands. The doctrine of a world-soul "distributed according to harmonic numbers" and "borne altogether in harmonic courses" throws, to Aristotle's mind, but little light upon the real questions of psychology¹. Yet, as Teichmüller reminds us (*Studien*, p. 252), Aristotle's theory of a creative reason is in some respects only a development of Plato's conception of a world-soul: and the inconsistencies which Aristotle's prosaic interpretation of the expressions of the *Timæus* discovers in the doctrine had been partly foreseen by Plato himself (*Tim.* 29 c). Aristotle generally is not seen at his best when engaged in criticizing Plato. Unphilosophical however as are the arguments brought against the Idea of Good in the *Ethics* or against ideas generally in the *Metaphysics*, they are surpassed in quibbling commonplaceness by those directed in the *Psychology* against the theory of a world-soul. Construing literally all that Plato said about the soul being a circle—the sphere of the 'same' and the sphere of the 'other'—Aristotle goes on to object that the soul cannot be represented as a magnitude (*μέγεθος*)—that since circular movement is everlasting the thought of this world-soul will be so too (as if Aristotle himself did not claim just this eternal thought for his own 'creative reason'), that thought is liker rest than motion, and that "happiness cannot be an attribute of what is acted on by force." It is, as Teichmüller with no unmerited pleasantry remarks, as if one were to criticize Goethe's saying, "Green is the golden tree of life," on the ground that gold is not green, and that a tree is not made of metal because otherwise its sap could not be assimilated by diffusion.

ἐνέσσονται καὶ ἡ σύνθεσις· γνωριεῖ γὰρ ἕκαστον τὸ ὅμοιον, τὸ δ' ὁστούν ἢ τὸν ἄνθρωπον οὐθὲν εἰ μὴ καὶ ταύτ' ἐνέσται. τοῦτο δ' ὅτι ἀδύνατον, οὐθὲν δεῖ λέγειν.

¹ I. 3, 407.

The Platonic Psychology however did not confine itself to the doctrine of a world-soul propounded in the *Timæus*. In the *Republic* the axiom of contradiction had been somewhat skilfully applied to distinguish Reason from Appetite and both from the spirit of indignation, the sense of honour (*θυμὸς*) which abets the reason: and in the *Timæus* these three faculties are assigned to different portions of the physiological structure, thought having its dwelling in the head, spirit being located in the breast and heart, and appetite residing in the lower regions (*Timæus* 69 D). These faculties were accordingly regarded as so many parts (*μέρη*) or kinds (*εἶδη* or *γέννη*) of soul: and though Plato raises the question (*Republic*, 436) whether each of these functions be separate or whether it be with the whole soul (*ὅλην τῇ ψυχῇ*) that we are engaged in each particular application, his general exposition tends to regard the three as separate and independent entities, so that we think with one part, desire with another, and shew spirit with a third part of our mental organism¹.

This separation of faculties appears to Aristotle decidedly unsatisfactory. To regard the mind as reasoning with one part of itself, desiring with another, and so forth, is to destroy implicitly its essential unity. The body by itself cannot certainly form a sufficient bond of union: and we are met directly by the difficulty of finding some force or other which will account for the actual oneness of our mental organism². And even such a simple division of faculties as that of rational and irrational is exposed to the objection that will embrace elements which fall within each of these two sides of our nature³.

¹ Probably however as Mr Archer-Hind suggests (*Journal of Philology*, no. 19) the physiological partition of the *Timæus* is not to be taken literally, and the unity claimed for the soul in the *Phædo* is compatible with the threefold division of the *Republic* on the assumption that "in connection with the body soul assumes certain phases which are temporary and only exist in relation to the body."

² I. 5, 411^b5, λέγουσι δὴ τινες μεριστὴν αὐτὴν καὶ ἄλλω μὲν νοεῖν ἄλλω δὲ ἐπιθυμεῖν. τί οὖν δὴ ποτε συνέχει τὴν ψυχὴν, εἰ μεριστὴ πέφυκεν; οὐ γὰρ δὴ τὸ γε σῶμα· δοκεῖ γὰρ τοῦναντίον μᾶλλον ἢ ψυχὴ τὸ σῶμα συνέχειν.

³ III. 9, 432^a22, ἔχει δὲ ἀπορίαν εὐθὺς πῶς τε δεῖ μόρια λέγειν τῆς ψυχῆς καὶ πόσα. τρόπον γὰρ τινα ἄπειρα φαίνεται, καὶ οὐ μόνον ἃ τινες λέγουσι διορίζοντες λογιστικὸν καὶ θυμικὸν καὶ ἐπιθυμητικὸν, οἱ δὲ τὸ λόγον ἔχον καὶ τὸ ἄλογον κ.τ.λ.

These criticisms on previous psychologists are evidently not entirely the self-satisfied work which Francis Bacon supposed all Aristotle's historical investigations to be. Aristotle is not merely seeking to demolish all existing theories before proceeding to develop his own views: or at any rate, he is not demolishing them merely for the demolition's sake. The historical standpoint, which is so characteristic of Aristotle in all his writings, has an entirely different significance. To Aristotle as to Coleridge, "the very fact that any doctrine had been believed by thoughtful men was part of the problem to be solved, was one of the phenomena to be accounted for." And if we must allow that Aristotle shews little power of viewing a conception from the standpoint of its original advocates and tends in general to criticise a theory too much from the platform of his own formulæ and doctrines, we must none the less recognise the value of the light he throws upon preceding psychological speculation. He prepares us at the least for the results he himself will lay before us: he helps us to understand the significance of his own work by the statement of that to which it is opposed: he gives us a keener appreciation of the difficulties which we have to face and of the dangers which we must avoid. Already we have learned from the mistakes of previous thinkers that no abstract theory of mind will satisfy the facts which call for explanation: that we must not limit our investigation of psychical phenomena to the single phase of their existence in man: that the bodily environment must not be treated as of no importance: and that the unity of the mental faculties must be beyond all things steadfastly maintained¹. And Aristotle's own definition of the Soul is in great part only a restatement of these different propositions.

¹ *De An.* I. 5, 410^b16, πάντες δὲ καὶ οἱ διὰ τὸ γνωρίζειν καὶ αἰσθάνεσθαι τὰ ὄντα τὴν ψυχὴν ἐκ τῶν στοιχείων λέγοντες αὐτήν, καὶ οἱ τὸ κινητικώτατον, οὐ περὶ πάσης λέγουσι ψυχῆς.

IV. ARISTOTLE'S DEFINITION OF SOUL.

Fully to understand the Aristotelian definition of the Soul requires a more than ordinary acquaintance with the technical phraseology of Aristotle's *Metaphysics*. To begin with, we may say that Aristotle regards the soul and body as two sides of an antithesis, in which the opposing members only exist in the true sense of the terms in their combination with each other. The writer begins his inquiry with the fact of the existence of natural living objects. There are natural as opposed to artificial things: and of such natural phenomena there are some which possess life, others which are lifeless. Life itself, he defines, as the process of nutrition, increase and decay from an internal principle¹. Here then, in the 'living natural object,' we find a concrete reality which presents us with two sides or aspects—the one body, the other soul. But body itself is not soul: soul is rather an attribute or predicate of body: the form to which body acts as matter.

Soul is thus, from Aristotle's point of view, more or less dependent on the body: but it is only on the other hand in soul that body attains its true reality. Body is then not so much the physical basis of the soul as soul the cause or reason of the body. The physiological phenomena of the body find, in fact, their *truth* in soul, as their final outcome, but as at the same time their end and higher meaning. In Aristotle's own peculiar phraseology, soul is the substantial reality or essence (*οὐσία*) of the body.

Aristotle's Theory of Substance is well known to be full of apparent inconsistencies. While on the one hand the logical treatises regard substance as the individual object, the particular thing (*τόδε τι*)—such and such a man, such and such a plant, the *Metaphysics* frequently identify real being with the universal or generic notion—man or plant conceived of in their general

¹ II. I, 412^b14, ζῶν δὲ λέγομεν τὴν δι' αὐτοῦ τροφήν τε καὶ αὔξησιν καὶ φθίωσιν.

character. To the tract 'on Categories,' 'first substances' are definite forms of existence, 'secondary substances' the genera and species in which first substances are contained¹: to the writer of the *Metaphysics*, amid much that corresponds entirely with the teaching of the *Organon*, there is a tendency to regard 'first substances' as specific forms and constitutive notions².

These two accounts of substance are not however really so far apart as they are sometimes thought to be. Neither in his logical nor in his metaphysical writings does Aristotle ostensibly recede from his antagonism to the Platonic account of real being or true existence. To Plato, the real had been the general notion, the universal permanent element which was to be found in no one individual thing, but yet gave life and existence to them all—the *idea* (as it is commonly designated) which made each thing to be what it actually was. Against this theory of the 'real,' Aristotle's philosophy is one continuous protest. To Aristotle the real being, the substantial truth, the essential nature of things—for by all these terms we may translate the Greek expression—lies in the union of two elements, which may be separated by an effort of analysis, but which form complementary sides in every really existing thing. The members of this antithetic synthesis may be variously denominated. We may say that everything which really 'is,' and to which qualities attach themselves, is the result of a coalition between an unformed original indeterminate matter (*ύλη*) on the one hand,

¹ *Categ.* c. 5, 2^a11, οὐσία δὲ ἐστὶν ἡ κυριώτατά τε καὶ πρώτως καὶ μάλιστα λεγομένη, ἣ μῆτε καθ' ὑποκειμένου τινος λέγεται μῆτ' ἐν ὑποκειμένῳ τινὶ ἐστὶν, οὐδ' ὁ τις ἀνθρωπος ἢ ὁ τις ἵππος· δεύτεραι δὲ οὐσὶαι λέγονται ἐν οἷς εἶδεναι αἱ πρώτως οὐσὶαι λεγόμεναι ὑπάρχουσι. So also *Metaphys.* Z. 3, 1029^a8, οὐσία is explained as τὸ μὴ καθ' ὑποκειμένου ἀλλὰ καθ' οὗ τὰ ἄλλα. Still more definitely it is said, *Categories*, 3^b10, πᾶσα δὲ οὐσία δοκεῖ τόδε τι σημαίνειν: a result also expressed in the reasonings of *Metaph.* Z. 16, 1041^a4, τῶν καθόλου λεγομένων οὐθὲν οὐσία. Cp. also *Gen. An.* IV. 2, 767^b34.

² *Metaph.* Z. 7, 1032^b1, εἶδος δὲ λέγω τὸ τί ἦν εἶναι ἐκάστου καὶ τὴν πρώτην οὐσίαν. Z. 11. 1037, ἡ οὐσία γὰρ ἐστὶ τὸ εἶδος τὸ ἐνόν.....and more clearly 1037^b1, τὸ τί ἦν εἶναι ἕκαστον ἐπὶ τινῶν μὲν ταυτὸν, ὥσπερ ἐπὶ τῶν πρώτων οὐσιῶν, οὐδ' ὁ τις ἀνθρωπος ἢ ὁ τις ἵππος· δεύτεραι δὲ οὐσὶαι λέγονται ἐν οἷς εἶδεναι αἱ πρώτως οὐσὶαι λεγόμεναι ὑπάρχουσι. So also *Metaphys.* Z. 3, 1029^a8, οὐσία is explained as τὸ μὴ καθ' ὑποκειμένου ἀλλὰ καθ' οὗ τὰ ἄλλα. Still more definitely it is said, *Categories*, 3^b10, πᾶσα δὲ οὐσία δοκεῖ τόδε τι σημαίνειν: a result also expressed in the reasonings of *Metaph.* Z. 16, 1041^a4, τῶν καθόλου λεγομένων οὐθὲν οὐσία. Cp. also *Gen. An.* IV. 2, 767^b34.

and a regulative creative form (εἶδος) on the other. *Matter*, as conceived by Aristotle, is thus the original substratum, the indefinite unformed starting-point which is as yet mere negation, but is to become something actual: while *Form* is the mode in which this undetermined something passes from its state of merely negative existence into that of real definite being. Or again, we may say, every real thing is at once individual and universal: it is either an individual universalized by the relations in which it exists or an universal individualized through the particular conditions which determinate existence imposes on it. The truth of things thus lies in the fully determined concrete rather than in the vague or empty abstract: or, in Aristotelian phraseology, it is a combination (σύνολον) in which matter merges in form and form gains reality through an as yet unformed matter¹. And in some such sense as this Soul is the substance—that is, the concrete reality or substantial truth of Body.

Soul therefore, Aristotle himself elsewhere says, is the realization of the body (ἐνέργεια σώματος)². This conception of realization occupies a prominent place in Aristotle's philosophy. The world Aristotle regarded as a perpetual process of development—a constant transformation of what merely had the power of being into that which actually existed. Existence therefore shewed us two inseparable and correlative aspects of its operations—a state of potentiality or capability (δύναμις) on the one hand, and a state of actualization or realization (ἐνέργεια) on

¹ *Metaphys. Z.* 10, 1035^b29, καθόλου δ' οὐκ ἔστιν οὐσία, ἀλλὰ σύνολόν τι ἐκ τούτου τοῦ λόγου καὶ τησδὶ τῆς ὕλης ὡς καθόλου. Cp. 1051^a29, ἡ οὐσία γὰρ ἐστὶ τὸ εἶδος τὸ ἐνόν, ἐξ οὗ καὶ τῆς ὕλης ἡ σύνοδος λέγεται οὐσία. And the sense of fully determined reality as equivalent to οὐσία is put most clearly *De Interpret.* c. 13, 23^a23, τὰ μὲν ἄνευ δυνάμεως ἐνέργειαι εἰσιν, ὅταν αἱ πρῶται οὐσαί. For Aristotle's conception of ὕλη the following passages are important: *De Gen.* 1. 4, 320^a2, ἔστι δὲ ὕλη μάλιστα μὲν καὶ κυρίως τὸ ὑποκείμενον γενέσεως καὶ φθορᾶς δεκτικόν: *Meta.* H. 1, 1042^a27, ὕλην δὲ λέγω ἡ μὴ τότε τι οὐσα ἐνεργείᾳ δυνάμει ἐστὶ τότε τι: or more simply in *Meta. Z.* 3, 1029^a20, λέγω δ' ὕλην ἡ καθ' αὐτὴν μήτε τι μήτε ποσὸν μήτε ἄλλο μηδὲν λέγεται ὅς ᾤρισται τὸ ὄν. So shortly it is the ἀόριστον, the undetermined.

² *Meta.* H. 3, 1043^a35.

the other—this realization being itself in turn only a stage of potentiality for the development of some other aspect of reality. It should be evident from this in what sense it is that soul is the realization of the body. Without soul, Aristotle implies, the body is a mere potential existence, a mere possible substratum for development in future: it is nothing actual or real. But the whole meaning of a potential capacity lies in its reference to the actual realization which expresses it¹. Just as the seed reaches its true meaning in the tree, so the soul constitutes the real significance of the body. Soul is thus not only the realization, the true meaning of the body: it is also in a sense its end or termination. When an organism has advanced so far as to possess a soul, it has reached, as it were, its last stage in development.

To express this aspect of the mental functions, Aristotle makes use of the word *entelechy* (ἐντελέχεια). The word is one which explains itself. Frequently, it is true, Aristotle fails to draw any strict line of distinction between *entelechy* and *energy*: but in theory, at least, the two are definitely separated from each other, and ἐνέργεια represents merely a stage on the path towards ἐντελέχεια. Entelechy in short is the realization which contains the end (τέλος) of a process: the complete expression of some function—the perfection of some phenomenon, the last stage in that process from potentiality to reality which we have already noticed². Soul then is not only the realization of the body: it is its perfect realization or full development.

There is however a further differentiation of the term ἐντελεχεια in the definition of the soul. The full development of any object or of any idea may be either implicit or explicit. The cognitive powers of man for instance find their development on the one hand in the possession of scientific truths and general

¹ *Eth. Nic.* IX. 9, 1170^a17, ἡ δὲ δύναμις εἰς τὴν ἐνέργειαν ἀνάγεται.

² *Meta.* Θ. 8, 1050^a23, διὸ καὶ τοῦτομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελέχειαν. Whereas ἐντελέχεια connotes as it were both ἔργον and τέλος: it is a ἕξις which is at the same time ἐνέργεια.

knowledge, on the other hand in the application of these truths to new fields of intellectual interest. The knowledge, in other words, through which man as a rational being attains the full fruition, the perfect realization of his faculties, may be either knowledge possessed but dormant in the mind or it may proceed to something further and be this same knowledge consciously applied and used. Now it is in the first of these two senses that soul is the entelechy or perfect realization of the body: it is the first or earliest—that is the relatively dormant or implicit actualization in which our bodily processes attain their real truth. “Thus then,” writes Aristotle, “if we be required to frame some one common definition which will apply to every form of soul, it will be that soul is the earlier perfect realization of a natural organized body¹.” The words imply that Aristotle knows how perilous it is to lay down any general phrases which will apply to all the different forms of soul in the wide meaning in which he employs the expression. The love of concrete particular facts which shews itself in the distrust which he expresses in the *Ethics* for vague general theories and definitions² would have led him rather to pass directly to the study of the different phases of soul and the distinctive characteristics of the separate mental functions. But the need of a general comprehensive study of psychology in opposition to the limited and unsystematic propositions of earlier thinkers made it imperative on Aristotle to supply a conception of the soul which should apply not merely to that vital force which gave meaning to the human organism but also to the animal creation generally and even to the forms of vegetable life. And such a comprehensive definition of the soul Aristotle found in calling it the earliest entelechy of body—the perfect development which having reached the stage of realization is capable of continued action,

¹ *De An.* II. I, 412^b4, εἰ δὴ τι κοινὸν ἐπὶ πάσης ψυχῆς δεῖ λέγειν, εἴη ἂν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὁργανικοῦ.

² *Eth. Nic.* II. 7, 1107^a29, οἱ μὲν καθόλου (λόγοι) κενώτεροί εἰσιν, οἱ δ' ἐπὶ μέρους ἀληθινώτεροι.

the *ἐνέργεια* which is still a *δύναμις*, the developed state which is the condition of perfect action.

There are other expressions by which Aristotle enables us to grasp still further his conception of the soul¹. Soul for instance he asserts is the *τί ἦν εἶναι* of the body, the manifestation or expression of the being of the body. This strange-looking term is one possessed of much significance. It would seem to have arisen from the combination of the phrase *τί ἐστί* with the words *τὸ εἶναι*. The *τί ἐστί* of an object is the statement of its general leading nature. By *τὸ εἶναι* on the other hand we must understand simply the definite existence, the particular manifestation of any object to which the term is applied. If then we combine the two formulæ together—the change from *τί ἐστί* to *τί ἦν* would seem intended to remove the notion outside the limits of present time and so give the phrase a wider and more abstract character than it would otherwise possess—we arrive at that same notion of concrete reality, of individualized universality which we found before to be the sense of substance (*οὐσία*). The substance or reality however with which we are now dealing is ‘without matter’ (*ἄνευ ὕλης*)—it is, that is to say, fully determined and realized and therefore free from all those associations of something not yet fully formed which are inherent in Aristotle’s theory of matter².

Soul is accordingly, as the *τί ἦν εἶναι* of the body, the realization of its general character—the manifestation of its *a priori* meaning—the exposition of what body was and is. Thus further soul is the *λόγος*, the idea of body. It is so because

¹ *De An.* II. 1, 412. Cp. *Meta.* Z. 10, 1035^b14, ἐπεὶ δὲ ἡ τῶν ζώων ψυχὴ (ζῴουτο γὰρ οὐσία τοῦ ἐμψύχου) ἡ κατὰ τὸν λόγον οὐσία καὶ τὸ εἶδος καὶ τὸ τί ἦν εἶναι τῷ τοιούτῳ σώματι.

² *Meta.* Z. 7, 1032^b14, λέγω δ’ οὐσίαν ἄνευ ὕλης τὸ τί ἦν εἶναι. It is frequently identified with the use of *εἶναι* with a dative, as denoting the essential character of some object. So *Meta.* Z. 4, 1029^b14, discussing the conception *λογικῶς*, says *ἐστί* τὸ τί ἦν εἶναι ἕκαστον ὃ λέγεται καθ’ αὐτό. οὐ γὰρ ἐστί τὸ σοὶ εἶναι τὸ μουσικῶ εἶναι· οὐ γὰρ κατὰ σαντὸν εἰ μουσικός. Cp. also *Meta.* H. 3, τὸ γὰρ τί ἦν εἶναι τῷ εἶδει καὶ τῇ ἐνέργειᾳ ὑπάρχει. ψυχὴ μὲν γὰρ καὶ ψυχῇ εἶναι ταῦτόν, ἀνθρώπῳ δὲ καὶ ἀνθρώπος οὐ ταῦτόν, εἰ μὴ καὶ ἡ ψυχὴ ἀνθρώπος λεχθήσεται.

it expresses the true significance of the body and so contains its definition. It is in short, Aristotle implies, only through the soul that we can understand, explain or comprehend the body. And so far as modern physiological psychology asserts that mind is to be known only through a study of the material processes which are its concomitants, it reverses altogether the standpoint of Aristotle's psychology.

This relation of the body to the soul has been however strangely misunderstood by most commentators on the Aristotelian psychology. So deep rooted is the conviction that mind and body are two entirely different forces that few thinkers have been able to grasp the Aristotelian conception of their mutually complementary character. Even a writer who has devoted so much of a lifetime to the work of expounding Aristotle to his countrymen as M. Barthélemy St. Hilaire finds the secret of all the aberrations of Aristotle in his failure to distinguish between the body and the soul. "He has confounded them," he writes, "by ascribing to the one functions which belong exclusively to the other." But the truth is that Aristotle has neither confounded them nor misappropriated their functions. He has simply risen above the ordinary popular standpoint which views them as two mutually exclusive forms, and regarded them as moments in one great idea—as factors which require the support of one another—and in which nevertheless mind or soul is the real truth of the union. He does not for one moment deny, as we shall find when we consider his theory of reason, that there may be activities of thought independent of material organization. What he does maintain is that soul represents the true meaning of the body, so that body cannot be rightly said to exist apart from soul—and that it is through soul that the bodily processes attain their true significance.

Regarding soul in this way as the truth of body, Aristotle will not accept such phrases as harmony or adjustment (*σύνθεσις*) as expressions of the relations which subsist between the body and the soul. In many ways indeed the conception of

harmony would seem to be not unlike the manner in which Aristotle conceives the soul in its connection with the physical organism. But the fourth chapter of the first book of the *Psychology* shews how far he is from accepting such an explanation of the soul. Not indeed that Aristotle rejects this conception of the mental functions with the same decisiveness as that with which he sets aside various other theories advanced upon the subject. He sees that the view which regards the living being as compounded of contraries (*συγκείσθαι ἐξ ἐναντίων*) agrees in some respects with his own theory of the relations which subsist between the body and the mind: and with genuine dialectical subtlety, after he has enumerated the different arguments which seem to shew that the soul cannot be regarded as a harmony of different elements in proper ratio, he proceeds to state the difficulties which meet his own conclusion, from the fact that the destruction of the body ends in the destruction of the soul just as conversely the destruction of the soul coalesces with the annihilation of the body¹. Yet none the less Aristotle holds to his own conclusion, which maintains that soul and body are not simply a harmony or proportionate ratio of opposing elements, but rather an inner unity in which the bodily functions find their truth and real meaning in the soul. Body, in fact, exists for the sake of soul: and while the mental functions are dependent for their exercise upon the body, it is equally true that body is devoid of meaning when apart from soul.

‘We must then,’ says Aristotle, ‘no more ask whether the soul and the body are one, than ask whether the wax and the figure impressed upon it are one, or generally inquire whether the material and that of which it is the material, are one².’ The two, he means, are only complementary sides of one and the same

¹ *De An.* I. 4, 407^b30, ἁρμονίαν γὰρ τίνα αὐτὴν (i.e. ψυχὴν) λέγουσι· καὶ γὰρ τὴν ἁρμονίαν κράσιν καὶ σύνθεσιν ἐναντίων εἶναι καὶ τὸ σῶμα συγκείσθαι ἐξ ἐναντίων· καίτοι γε ἡ μὲν ἁρμονία λόγος τίς ἐστι τῶν मिχθέντων ἢ σύνθεσις, τὴν δὲ ψυχὴν οὐδέτερον οἶον τ’ εἶναι τούτων. . . . ταῦτα μὲν οὖν ἔχει τοιαύτας ἀπορίας· εἰ δ’ ἐστὶν ἕτερον ἢ ψυχὴ τῆς μίξεως, τί δὴ ποτε ἅμα τῷ σαρκὶ εἶναι ἀναιρείται;

² *Id.* II. I, 412^b6.

state or object. Not that Aristotle anticipates the monistic standpoint of Spinoza and regards thought and extension, mind and body, as only different aspects of one and the same substance, viewed now under one attribute, now under another, or that he holds with George Henry Lewes that "a mental process is only another aspect of a physical process." Aristotle does not leave the mind in a position of simple equilibrium against the body. To him body only attains reality in soul: and the mental functions, while the outcome of the physical, are yet also in a way the presupposition on which they rest. Soul, in fact, is what gives meaning and reality to body just as it is vision which gives meaning and reality to the eye: or as it is axehood which, were we to conceive an axe as a natural body, would be the soul and truth of an axe. Just, in short, as the eye is only properly an eye when it sees, the axe only properly an axe when it is used as such, so the body is only rightly called body when it is realized in soul¹.

Such an explanation of the relation between mind and body is not perhaps altogether flawless, but it goes a long way to a solution of a problem which has often met with very insufficient answers. It involves no such *deus ex machina* as is involved in the Occasionalism of Geulinx or the pre-established harmony of Leibnitz. It holds, it will be seen, that mind and body are not to be viewed as entities entirely separated from one another, but as correlatives which mutually imply each other: as terms in fact which stand as right and left or as the outward and the inward. It maintains, to use the words of Prof. Erdmann's *Leib und Seele*—a book which is in many ways the best commentary to be had on Aristotle's general psychological position—that as body cannot be imagined without mind, so mind cannot be conceived without body—that the two in fact presuppose one another. Body and soul thus stand in the closest relation to one another. The soul is the immanent end or

¹ *De An.* 412^b12 and 413^a1.

determination of the body, the body nothing but the expression or realization of the soul: the soul is the idealization of the bodily organs, while they are the actualization of the mental powers. Or if soul be viewed as the perfection and completion of that for which the body is adapted, body on the other hand is the explication or development of the nature of the soul.

Phrases like these, it should however be remembered, only apply to Aristotle's psychological conceptions so far as we can venture to render the Aristotelian terminology by modern equivalents. It may be said at once that no English word can fully represent what Aristotle meant by $\psi\upsilon\chi\eta$. The word was one which had gradually acquired a special connotation to which its usage, say in the Homeric poems, gives us but little clue. And when we ask what English term would best translate the word as used by Aristotle it is difficult to arrive at any precise decision. 'Mind' might well be said to occupy the same place in the psychology of our day which $\psi\upsilon\chi\eta$ did in that of Aristotle's times: and it might be plausibly regarded as the true equivalent for Aristotle's word. But on the other hand it is to be remembered that the 'mind' means less than Aristotle's expression meant in Greece. We talk about the 'mind' of animals but scarcely of the 'mind' of plants: and yet it is to plants as well as to animals that the Aristotelian term has to be applied. 'Vital principle' (the phrase by which Collier sought to represent the term) means at once less and more than Aristotle's word: and it seems desirable to find a single term which shall be as concise as the original word itself. 'Psychic force' is therefore equally objectionable, not to take account of the further fact that it merely repeats in English characters the Greek original. 'Soul' on the other hand would seem to be free from some of these defects. It is no doubt coloured for us by religious and moral considerations which are foreign to the psychological inquiries of the Stagyræ: but in some respects it may claim to recall some part at least of Aristotle's meaning. The 'soul' of a plant and the 'soul' of a man are

alike the central vivifying element in each: a 'soulless' man or 'soulless' melody are alike devoid of inner force and meaning. And therefore, though it is really impossible to stick consistently to one stereotyped equivalent—though according to the context we must modify the English term we select—it would seem desirable to employ 'soul' as the usual equivalent of Aristotle's *ψυχή*.

But the important question for us, Aristotle himself would probably have said, is not what is the abstract nature of this *ψυχή*, but what are the powers and faculties in which it manifests its action. And accordingly, from the consideration of soul in the abstract, he proceeds to investigate the different forms in which it presents itself before us. True to his general preference of concrete particulars to abstract universals, he has no sooner stated what mind is in general than he proceeds to exemplify and corroborate his theory by a statement of its various manifestations. The good definition, he declares, must not remain a bare assertion: it must prove its own validity and set forth the grounds on which it rests. Too often the terms of a definition are like unproved conclusions¹. But the genuine definition will not merely exhibit the results at which it has arrived: it will also state the steps by which it has attained its end. And such a corroboration of the definition of the soul is found in enumerating the various aspects of life to each of which the description of an implicit perfection or entelechy may be applied.

V. THE PSYCHICAL FACULTIES.

These various developments of life, of which each, besides constituting the soul of its own stage of life, is also incorporated as a 'moment' in the soul of man, are briefly what Aristotle knows as faculties. For, it is of life, that soul

¹ *De An.* II. 2, 413^a16, *νῦν δ' ὥσπερ συμπεράσμαθ' οἱ λόγοι τῶν ὄρων εἶσιν.*

may be regarded as the foundation or the principle—the cause in which its several conditions may be viewed as concentrated. There will then be as many forms of soul as there are definite types of life—in other words, we may trace the vital phenomena as they display themselves in plants and animals, and whatever be the function or set of functions in which each object seems to realize its true nature, this function or combination of functions may be regarded as the soul or *ψυχή* for that one stage of existence.

Psychology with Aristotle is thus closely related to biology: and the same conception of development (taken generally) as dominates his biology is prominent also in his psychology. The continuity (*συνέχεια*) of terrestrial life was constantly present to his mind. Nature, he remarks in his treatise *On the Parts of Animals*, proceeds without interruption from inanimate to animate forms of existence through the intermediate stage of beings which are living but yet not animals¹, and the ambiguous character of sponges and such like objects attracted his special notice. Analogy, he found, ruled the relations of the parts of vegetable to the parts of animal nature: and among animals again he recognised a similarity between the different limbs and organs characteristic of the different species. Nor did he allow more than a difference of degree between animals and man. ‘The great majority of animals,’ he remarks in the eighth book of his *History of Animals*, ‘present some traces of those mental characteristics which display themselves most prominently in the human being; and the ‘soul’ of children is but little different from that of lower animals². Man therefore stands on the same line as the rest of animal existence. He is the end and centre of creation: but he is so simply in so far as all forms of life lead gradually

¹ *De Partibus An.* IV. 681^a12, ἡ γὰρ φύσις μεταβαίνει συνεχῶς ἀπὸ τῶν ἀψύχων εἰς τὰ ζῶα διὰ τῶν ζώντων μὲν οὐκ ὄντων δὲ ζῶων, οὕτως ὥστε δοκεῖν πάμπαν μικρὸν διαφέρειν θατέρου θάτερον τῷ σύνεγγυς ἀλλήλοις. Cp. *Hist. An.* 588^b4.

² *Hist. Animalium*, Book VIII. I, 588^a18, ἐνεστι γὰρ ἐν τοῖς πλείστοις καὶ τῶν ἄλλων ζῶων ἔχνη τῶν περὶ τὴν ψυχὴν τρόπων, ἅπερ ἐπὶ τῶν ἀνθρώπων ἔχει φανερωτέρας τὰς διαφοράς.

up to man as the perfect development of what is contained implicitly and imperfectly in lower forms.

This biological conception of a progressive development of life on earth, stands, as has been said, in the closest relation with the Aristotelian psychology. There are, in fact, just as many forms of soul as there are clearly ascertained types of vitality: and the soul exhibits itself in a series of forms corresponding to the stages by which life passes from that of mere vegetable existence to the higher faculties of thought and will. Aristotle thus comes to recognise four different kinds (as we may say) of soul, each one of which represents a different stage of physical development. It is indeed only with the power of sense-perception that we reach the animal properly so called. But before this stage is reached, there is a simpler form of life, of which the full development may be described as soul. This is contained in the discharge of the normal functions of nutrition, growth and reproduction—the different processes in fact by which food is assimilated and mere existence is maintained. If it be sense-perception which constitutes the animal, it is this nutritive function which constitutes the truth or real meaning of the vegetable or plant. And besides these processes which thus constitute the first entelechies of plants and animals, the psychologist requires to take account of other forms of soul which belong chiefly or exclusively to man. Aristotle accordingly recognises the following four stages in the development of soul. There is, *first*, soul as the perfect realization of the nutritive and vegetative life, *secondly*, soul as equivalent to the exercise of sense and its perceptive powers, *thirdly*, soul as expressive of desire and thus attended by the capacity of local movement, and *lastly*, soul as implying the action of the intellect and understanding—briefly the vegetative, the sensitive, the conative and the intellectual soul¹.

These stages in the development of soul are not however

¹ II. 2, 413^b12, ἡ ψυχὴ τοῖσι ὥρισταί, θρεπτικῶ, αἰσθητικῶ, διανοητικῶ, κινήσει.
Cp. II. 3, 413^a31.

spoken of so much as forms or kinds of soul as parts (*μέρια*) or faculties (*δυνάμεις*). And here at once a difficulty presents itself. What is the sense in which we can regard the soul as divided into parts¹? How can we preserve its inner unity, if we allow it to be thus split up into different applications of its activity? Questions like these bring Aristotle face to face with all the problems with which a theory of mental faculties is surrounded. The division cannot, he thinks, stop with the enumeration of some three or four faculties: the very differences on which the ordinary divisions are founded make it necessary to recognise a much larger group of powers of mind². The Platonic division into reason, spirit and appetite must be supplemented by the faculties of growth, sensation and imagination. And there is a further difficulty which meets any attempt to divide the mind into different faculties. The unity of the mental action makes it utterly impossible to confine some processes within the limits of one single faculty. The conative or orectic energy of soul would have, to suit the popular psychology, to be spread over two or three different faculties: because, adds Aristotle, while volition, one of its elements, falls within the sphere of reason, its other factors—appetite and impulse—fall within the field of the irrational³.

Faculties to Aristotle are thus not different 'parts' into which soul is actually divided, but only different sides or aspects of mental action. In opposition to the Platonic psychology which had seemed to draw a fast line between the members of its division, Aristotle views the partition of the soul into faculties as merely a convenient application of abstraction. And thus his faculties are not separable in actual fact or actual locality: the partition is one which rests simply on a difference in their mode of work-

¹ II. 2, 413^b14, πότερον δὲ τούτων ἑκαστὸν ἐστὶ ψυχὴ ἢ μέρος ψυχῆς καὶ εἰ μέρος πότερον οὕτως ὥστ' εἶναι χωριστὸν λόγῳ μόνον ἢ καὶ τόπῳ. Cp. III. 9, 432^a22.

² III. 9, 432^a24.

³ III. 9, 432^b7, εἰ δὲ τρία ἢ ψυχὴ, ἐν ἑκάστῳ ἔσται ὁρεξίς: because, it is explained, ἐν τῷ λογιστικῷ ἢ βούλησιν γίνεταί, καὶ ἐν τῷ ἀλόγῳ ἢ ἐπιθυμίᾳ καὶ ὁ θυμός.

ing, on the point of view from which they are regarded (λόγῳ): it is in short a distinction not a division¹. It is therefore only by an effort of abstraction that we can distinguish between different faculties of soul: just in fact as we can, according to the Nicomachean Ethics, distinguish between the convex and concave, or as, to use the additional illustration of the Eudemian Ethics, we can in the case of one and the same line distinguish between its straightness and its colour². We may separate in short between the sensitive and the conceptive powers of mind: but it is one and the same mind to which sensations are brought and by which concepts are formed: and the distinction, so far as it exists, is only a difference in the manner of the mind's activity in dealing with materials of knowledge.

The number of the mental faculties is accordingly a subject on which Aristotle is somewhat indifferent. Sometimes (II. 3. 1) the faculties are spoken of as five—the nutritive, sensitive, conative, locomotive and intellectual: at other times (II. 2. 7) four only are enumerated, because the conative and locomotive faculties are practically one: while, at other times, since the sensitive faculty is the basis of the conative, three only are enumerated and the Aristotelian scheme of psychic faculties reduces itself to the faculty of nutrition, the faculty of sense and the faculty of thought³. Soul therefore is itself defined as the fundamental principle of life, of sense-perception and of thought⁴: it is the unity in which they are all embraced. For

¹ II. 2. 10, 413^b29, τῷ δὲ λόγῳ ὅτι ἕτερα φανερόν· αἰσθητικῷ γὰρ εἶναι καὶ δοξα-
στικῷ ἕτερον, εἴπερ καὶ τὸ αἰσθάνεσθαι τοῦ δοξάζειν.

² *Eth. Nic.* I. 13, 1102^a28, ταῦτα δὲ πότερον διώρισται καθάπερ τὰ τοῦ σώματος
μέρια καὶ πᾶν τὸ μεριστὸν ἢ τῷ λόγῳ δύο ἐστίν, ἀχώριστα πεφυκότα καθάπερ ἐν τῇ περι-
φρείᾳ τὸ κυρτὸν καὶ τὸ κοῖλον.

Eth. Eud. II. 1, 1219^b32, διαφέρει δ' οὐθὲν οὐτ' εἰ μεριστὴ ἢ ψυχὴ οὐτ' εἰ
ἀμερὴς, ἔχει μέντοι δυνάμεις διαφόρους ὥσπερ ἐν τῷ καμπύλῳ τὸ κοῖλον καὶ τὸ κυρτὸν
ἀδιαχώριστον, καὶ τὸ εὐθὺ καὶ τὸ λευκόν· καίτοι τὸ εὐθὺ οὐ λευκόν.

³ III. 7, 431^a13, οὐχ ἕτερον τὸ ὀρεκτικὸν καὶ φευκτικὸν οὐτ' ἀλλήλων οὔτε τοῦ αἰσθη-
τικοῦ· ἀλλὰ τὸ εἶναι ἄλλο.

⁴ II. 2. 12, 414^a12, ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοούμεθα
πρώτως.

(Aristotle further explains) these souls or faculties of soul form an ascending series in which the higher faculty involves and comprehends the lower. The functions of nutrition are the basis for the faculties of sense: and the exercise of sense is necessary to provide a foundation and materials for thought. "The different forms of soul in fact stand to one another in the same way as do the several species of figure: both in the case of figures and of animate beings the earlier forms always exist potentially in the later¹." Just in short as the triangle may be regarded as the basis of all other rectilineal figures: so, in like manner, may the nutritive functions be viewed as the presupposition of all the later faculties, so that the possession of the sensitive faculties involves the possession of the faculties of nutrition, while the exercise of reasoning and thought implies and rests upon both the nutrient and sentient capacities.

Two points of view must be however steadily embraced in studying Aristotle's theory of faculties. On the one hand, it must be remembered that no higher exercise of soul can be dissevered from its lower animal presuppositions. But on the other hand we must remember also that each one of these faculties is a faculty of *soul*, and that it is only by reference to the unity of the soul that each can be rightly understood. Nor must we fail to note the general distinction Aristotle draws between that which is prior in order of time and that which is prior in order of thought. If modern theories of development have often neglected the distinction between 'nature' and 'history,' between the chronological genesis of a phenomenon and its existence as a logical conception, Aristotle repeatedly asserts that the reality precedes the potentiality and that if in time the lower form has the priority, still, in thought and real being, the higher, more developed form always stands the first. And in reading his natural history, as we may call it, of the mind,

¹ II. 3, 414^b28.

we cannot too often recall his own caution against forgetting whether we should describe how each thing naturally comes into existence or how it actually is¹.

VI. THE NUTRIENT FUNCTIONS.

The first among these psychic faculties, that viz. which constitutes the basis of vegetable life—need not detain us long. It also, we must remember, is a first entelechy—the implicit perfection of plant life—the cause or principle on which the different phenomena of growth eventually rest. Its work may be reduced to two main functions—those of reproduction and of absorbing food. It stands therefore first among those steps or stages of ideal perfection which Aristotle knows as ‘souls.’ It is accordingly ‘the most common form of the soul:’ it is the essential characteristic of all vegetable life and it forms the necessary presupposition of all the higher faculties, because it secures those very conditions of existence without which any further exercise of function is impossible. Its two functions—reproduction and nutrition—are in Aristotle’s theory closely connected with one another. The absorption of food is but the beginning of that process which finds its natural termination in the creation of another life. Nature in no one of all her operations acts without an aim or fruitlessly: and the assimilation of nutrition has for its end the permanent continuance of existence. “It is in fact the most natural of functions in every animal to generate another like itself in order that the individual may thus as far as possible participate in the eternal and divine.” The character of food itself as nourishment Aristotle takes some trouble to determine. The common opinion he finds is that

¹ *De Part. An.* 640^a18, δεῖ δὲ μὴ λεληθέναι πότερον προσήκει λέγειν πῶς ἕκαστον γίνεσθαι πέφυκε μᾶλλον ἢ πῶς ἔστιν. . . . ἡ γὰρ γένεσις ἕνεκα τῆς οὐσίας ἔστιν, ἀλλ’ οὐχ ἡ οὐσία ἕνεκα τῆς γενέσεως. *Metaph.* M. 1077^a18, τὸ ἀτελὲς μέγεθος γενέσει μὲν πρότερόν ἐστι, τῇ οὐσίᾳ δ’ ὕστερον, οἷον ἄψυχον ἐμπύχου.

contrary is nourished by contrary: but there are others who explain it by the contact of similars. Between these two opinions, Aristotle, in accordance with his usual method, takes up an intermediate position. "So far," he thinks, "as the food is undigested, the contrary is nurtured by the contrary: so far as it is digested the like is nurtured by the like¹,"—in other words the food becomes assimilated to the organism which it is destined to maintain.

Assimilation is thus the character of the process through which the lowest of the psychic faculties displays its operation. But we shall find that the mode of action thus assigned the nutrient faculties foreshadows as it were the manner in which all the other activities of soul are conceived to act. We may in fact say, with Bäumker, that while the plant assimilates the material in a material manner, sense assimilates the material in an immaterial manner, and thought assimilates the immaterial in an immaterial manner. And if this be more epigrammatic than true, it is at least the case that both in sensation and in thought, the work of soul resolves itself into a "receptive" act which cannot but carry with it many of the assimilating associations of the nutrient activities.

VII. THE FACULTIES OF SENSE.

From the capacities of growth and reproduction, Aristotle passes to the faculties of sense. These sentient capacities mark a decided point in the development of life on earth: for it is the possession of the powers of sense which first constitutes the animal². As the vegetable functions were characteristic of the plant, so it is the attribute of sensation which distinguishes the animal from objects simply animate. There is indeed, as we

¹ II. 4, 416^b7.

² *De Part. An.* III. 4, 666^a34: τὸ ζῶον αἰσθῆσαι ὥρισται. *De An.* II. 2. 4, 413^b2.

have seen, a certain amount of similarity, between the action of the nutrient and the action of the sensitive capacities in dealing with their materials. Both receive or apprehend their object, but the degree to which they do so is intrinsically different. The faculties which constitute plant life simply devour their object, they take in the matter as well as the form of that which they employ as nutriment; whereas the faculties of sense receive nothing but the form of their object while they leave the matter, of which it is composed, untouched¹.

Sensation is thus usually explained by Aristotle as a process in which we are 'moved' or 'affected' (literally, 'suffer') by an external object². It involves therefore immediately an 'alteration' or a qualitative transformation: the affection, which is the vehicle of alteration, produces a change in the nature or quality of the organ which perceives. The hand in fact, Aristotle might be taken to imply, becomes, when it perceives something, altered in its quality: it loses its own temperature and becomes cold or hot like its object: it is altered or transformed by the external object of sensation³. So again the eye in perceiving colour becomes as it were coloured itself⁴: it is subject, that is, to a qualitative change by means of the affection to which it is exposed. But this susceptibility upon the part of sense is not a susceptibility to the actual object of sensation: it is but the specific character, the determining form which the sense receives. And accordingly we find the faculty of sense defined as a power of receiving sensible objects without their material concomitants,

¹ II. 12, 424^a32—424^b2.

² II. 5, 416^b33: ἡ δ' αἰσθησις ἐν τῷ κινεῖσθαι τε καὶ πάσχειν συμβαίνει· δοκεῖ γὰρ ἀλλοίωσις τις εἶναι. ἀλλοίωσις itself is regarded as a kind of κίνησις, a μεταβολὴ κατὰ τὸ ποιεῖν, and more definitely we read *De Gen.* I. 4, 319^b10: ἀλλοίωσις μὲν ἐστίν ὅταν ὑπομένοντος τοῦ ὑποκειμένου, αἰσθητοῦ ὄντος, μεταβάλλῃ ἐν τοῖς αὐτοῦ πάθεσιν ἢ ἐναντίοις οὕσῳ ἢ μεταξύ. That πάθος is the vehicle of ἀλλοίωσις appears from *Metaφ.* Δ. 21, 1022^b15, πάθος λέγεται ἕνα μὲν τρόπον ποιότης καθ' ἣν ἀλλοιοῦσθαι ἐνδέχεται.

³ So in II. 12. 4, 424^a34, Aristotle asks why plants do not perceive—καὶ γὰρ φύχεται καὶ θερμαίνεται—i.e. they display signs of that ἀλλοίωσις which was said to constitute perception.

⁴ III. 2, 425^b22: τὸ ὁρῶν ἐστίν ὡς κεχρωμάτισται.

just in the same way as the wax receives the figure of the seal without the iron or the gold of which the seal itself may be composed¹.

Thus far Aristotle might seem to offer little but a mechanical interpretation of the perceptive powers. It might appear in fact as if sensation were nothing but a physiological process in which external objects stamped themselves upon the corporeal organism and so gave rise to various corresponding perceptions. But Aristotle supplements his theory in such a way as renders such an interpretation indefensible. The passive affection which is involved in all sensation is not merely passive; nay rather we may call it non-passivity². For if suffering (*πάσχειν*) be identical with being moved (*κινεῖσθαι*), it is virtually equivalent to active energy (*ἐνεργεῖν*). In receiving as it does the forms of things, sense is more than receptive: at the same time as it is impressed, it also in its turn impresses and gives that *εἶδος* to the things of sense without which they could not be otherwise perceived. But the writer fails here, as he fails always, to draw a distinction between the work of sense and the work of thought: and though we learn that the sensitive act (*αἰσθάνεσθαι*) is limited to an individual 'here' and 'now,' while perception (*αἰσθησις*) refers to the general aspect of a quality (*τοιόνδε*), we are not told how this transition is effected.

The searching analysis to which Aristotle subjects the terms which he himself applies to sense-perception makes it however at least clear that it is only in a limited acceptance that we can describe the faculty of sense either as a mere capacity (*δύναμις*) or as merely a 'suffering' or passive affection (*πάθος*)³. We must remember says Aristotle that 'capacity' and 'affection' are not univocal. A man may possess a 'capacity' of knowledge (for instance) either because he belongs to the class of beings capable of knowledge, or because he possesses an ac-

¹ II. 12, 424^a18: ἡ μὲν αἰσθησις ἐστὶ τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης, ὅλον δὲ κηρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ χρυσοῦ δέχεται τὸ σημεῖον.

² III. 4, 429^a29: ἡ ἀπάθεια τοῦ αἰσθητικοῦ.

³ II. 5, 417^{ab}.

quaintance with some special branch of knowledge which he is able to apply to actual use: and similarly the child as well as the grown-up man may be said to possess the 'capacity' to become a general. Now both of these capacities can be said to 'suffer' or 'be acted on': but the sense of this 'suffering' in the one case is very different from that which it bears in the other. The former, the man who possesses the capacity of knowledge simply in virtue of his humanity, 'suffers' or is acted on when from his condition of potential knowledge but actual ignorance he is brought round to the opposite condition, the other who possesses learning which he can apply is acted on by being led to give expression to the knowledge which he implicitly possesses. Thus in 'suffering' we must recognise two senses—on the one hand, the destruction of the one state by its contrary (*φθορά τις ὑπὸ τοῦ ἐναντίου*), on the other hand a preservation of something potential by means of what is actual (*σωτηρία τοῦ δυνάμει ὄντος ὑπὸ τοῦ ἐντελεχείᾳ ὄντος*). We must accordingly distinguish between two kinds of 'suffering' in sense-perception—the first that in which the mere condition of a faculty becomes a faculty ready for action as happens at the time of birth (*ὑπὸ τοῦ γεννῶντος*), the second that which brings the perceptive faculty, when developed, into actual exercise and enables it to reach its natural termination.

Sense then is not merely the reaction to an outward stimulus: it is not simply a form of reflex action: it is rather the realization of an internal faculty in response to its appropriate object. The sensible object, is, in other words, not so much the condition as the occasion of sensation: perception is something internal and immanent; only called out into action by an external object. Thus, to take a definite example, taste is affected by the object of taste as touch: and therefore the organ of taste must be rendered moist and like its objects—yet this however without losing its intrinsic character (*σωζόμενον*)¹. The view therefore of earlier thinkers who maintained that in sense-perception like was

¹ II. 10, 422^b2: *πάσχει γὰρ τι ἢ γεῦσις ὑπὸ τοῦ γευστοῦ ἢ γευστόν· ἀναγκαῖον ἄρα*

affected by like is not altogether false when stated with the proper limitations. The faculty of sense is potentially that which the object of sense is in actuality: and thus while undergoing the impression it is like its object, but, after the impression has been received, it becomes identical with it¹.

The object and the faculty of sense thus stand, to Aristotle's mind, in intimate relation with one another. The object and the faculty are in fact correlatives, and in the perceptive act tend to coincide. They differ only in the manner of their definite existence ($\tau\hat{\omega}$ εἶναι) or in the manner in which they may be regarded ($\tau\hat{\omega}$ λόγῳ)². They are only different sides or aspects of one and the same phenomenon, one side of which expresses itself in the operations of sense, the other in the concrete sensible thing. Aristotle however does not carry his doctrine of the relativity of knowledge so far as to deny the existence of a sensible world apart from sense-perception. "The early natural philosophers"—Democritus and Empedocles would seem to be intended—"were not right in holding that there was nothing white or black apart from vision, and no flavour independently of taste." Their theory, he thinks, is true if understood in reference to *actual* perception, but not if taken to apply to sense as mere potentiality³. Sense and things sensible are indeed correlative terms: but the faculty of sense is not so permanent in the relation as is the sensible object itself. The sensible object in fact, Aristotle holds, precedes the exercise of sense: the removal of the sensible object removes along with it the faculty of sense, while the faculty of sense does not simultaneously remove the sensible object⁴. It would seem therefore that

ὑγρανθῆναι τὸ δυνάμενον μὲν ὑγραίνεσθαι σωζόμενον, μὴ ὑγρὸν δὲ, το γευστικὸν αἰσθη-
τήριον.

¹ II. 5, 418^a3.

² III. 2, 425^b26: ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἡ αὐτὴ μὲν ἐστὶ καὶ μία, τὸ δ' εἶναι οὐ ταὐτὸν αὐταῖς.

³ 426^a20: ἀλλ' οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὔδὲ χυμὸν ἄνευ γεύσεως.

⁴ *Categ.* 5, 7^b37: τὸ μὲν γὰρ αἰσθητὸν ἀνααιρεθὲν συναναίρει τὴν αἰσθησιν; ἡ δ'

though Aristotle never really probed the difficulties contained within the question whether the faculty or the object of sense is prior, and glided over it by his elastic distinction of a potential and a real capacity, he still held firmly to the view that sense-perception perpetually involves a correspondence between the object and the organ of sensation, so that if upon the one hand the outward object may be said to make the sense to operate, there is another in which the sense creates for itself the object which it can perceive¹. To Aristotle, therefore, we may say matter is not a "permanent possibility of sensation" realized in perception but sensation a permanent possibility of perceiving what as perceived is the realization of the sensitive capacities.

The correspondence which thus subsists between the object and the organ of perception meets with special recognition in the phraseology of Aristotle. Perception, it is said, requires that the cognitive subject should occupy a middle point (*μεσότης*) with reference to the objects of sensation². For the object of sense generally presents a pair of opposites—white and black, sweet and bitter, hot and cold—and sense must for the moment identify itself with one or other of them³. But, in order to do so, it must itself be neither: it must occupy the middle point between the pairs of opposing qualities, so that it may be the better able to distinguish between them. For sense is essentially a critical faculty: its office is to distinguish between the qualities of objects: and to do so it must be itself equally removed from all these qualities⁴. And

αἰσθησις τὸ αἰσθητὸν οὐ συναναρεῖ. The grounds on which these conclusions are made to rest imply a physical conception of *αἰσθησις*, which is hardly in accordance with Aristotle's developed views upon this subject. The *αἰσθητὸν*, it is said, is prior to *αἰσθησις* because *αἰσθησις* itself results from a composition of various *αἰσθητά*, such as fire and water. Cp. *Metaph.* Γ. 5, 1010^b37.

¹ *De Sensu*, 2, 438^b22: τὸ γὰρ αἰσθητὸν ἐνεργεῖν ποιεῖ τὴν αἰσθησιν.

² II. II. 11, 424^a6: αἰσθήσεως ὅλον μεσότητός τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά, τὸ γὰρ μέσον κριτικόν γίνεται γὰρ πρὸς ἐκάτερον αὐτῶν θάτερον τῶν ἄκρων.

³ II. II. 2, 422^b23: πᾶσα γὰρ αἰσθησις μᾶς, ἐναντιώσεως εἶναι δοκεῖ, ὅσον ὄψις λευκοῦ καὶ μέλανος.

⁴ *An. Post.* II. 19, 99^b35: ἔχει γὰρ δύναμιν σύμφυτον κριτικὴν ἣν καλοῦσιν αἰσθησιν.

hence it is that the sense is powerless in the presence of a quality which exceeds a certain limit. Excessive light destroys the organ of vision: excessive sounds whether they be too high or too low cannot be perceived: excessive objects of touch destroy life itself. And the reason in each case is the same. Strong light, strong odours, too high sounds—all destroy that equilibrium which sense-perception involves: the organ as an intermediate condition is no longer able to cope with the quality which falls outside the ordinary range to which the perceptive powers are adapted¹.

The general character of sense-perception should now be tolerably evident. Sense, we have seen, is no merely material process: it is, as Aristotle expresses it, a "movement of the soul through the body²." Thus, in Aristotle's psychology, even perception is a going beyond the immediate fact, if the expression be allowed. The object which it apprehends is perceived not in its individual character but in relation to its general idea³. And thus the object of sense-perception as perceived is implicitly an universal: it is, to use Aristotle's example, not Callias, but Callias as man that we perceive⁴.

The analysis of the special senses requires us to take into consideration three main points. These three are 1st the object, 2nd the organ, and 3rd the medium of sense-perception. The second of these evidently enters into our inquiry. Perception, we have already seen, is a process in which at once soul

¹ II. 12. 3, 424^a28.

² *De Somno*, 2, 454^a7: ἡ δὲ λεγομένη αἴσθησις ὡς ἐνέργεια κίνησις τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστίν. *Prob.* XI. 33, χωρισθείσα δ' αἴσθησις διανοίας καθάπερ ἀναίσθητον πόνον ἔχει (quoted by Teichmüller *Pract. Ver.* 287). Cp. Plato, *Philebus* 34 A, τὸ δὲ ἐν ἐνὶ πάθει τὴν ψυχὴν καὶ τὸ σῶμα κοινῇ γιγνόμενον κοινῇ καὶ κινεῖσθαι, ταύτην δ' αὖ τὴν κίνησιν ὀνομάζων αἴσθησιν οὐκ ἀπὸ τρόπου φθέγγοι' ἄν.

³ *De An.* II. 12, 424^a22: ὁμοίως δὲ καὶ ἡ αἴσθησις ἐκάστου ὑπὸ τοῦ ἔχοντος χρώμα ἢ χυμὸν ἢ ψόφον πάσχει ἀλλ' οὐχ ἡ ἑκαστον ἐκείνων λέγεται, ἀλλ' ἡ τοιονδί καὶ κατὰ τὸν λόγον. Cp. *An. Post.* I. 31, 87^b28, ἐστὶν ἡ αἴσθησις τοῦ τοιοῦδε καὶ μὴ τοῦδε τινος.

⁴ *An. Post.* II. 19, 100^a16, καὶ γὰρ αἰσθάνεται μὲν τὸ καθ' ἑκαστον, ἡ δ' αἴσθησις τοῦ καθόλου ἐστίν, οἷον ἀνθρώπου ἀλλ' οὐ Καλλίου ἀνθρώπου.

and body are concerned, and it is therefore necessary to discuss the physical machinery by which perception is effected. The first—the object of sensation—calls for more remark. Aristotle it should be noted distinguishes between three kinds of objects of sense—a special, a common, and an incidental object¹. It is the first of these three objects of sensation with which we have meanwhile to do. Each single sense, Aristotle holds, has a special quality assigned to it: and the sense as such never goes beyond this quality². Thus the object of sight, we shall find, is colour, the object of hearing sound: and thus sight never gets beyond perceiving colours, hearing beyond perceiving sounds: if we do go beyond it and refer our sensation to a thing or person, we have passed beyond the special sensible, and, interpreting our sensation, have reached what Aristotle calls the incidental object of sensation³. It is then only this special sensible—this *ἴδιον αἰσθητόν*—with which we are meanwhile concerned, and with regard to each special sense our first inquiry (first, because, as we have seen, the object is prior to the faculty) must be—what is the object with which it is concerned. But not only have we to discuss the object and the organ: the perceptive act also involves a medium. The impression which effects perception is no actual contact between the object and the organ: in fact, if the object be placed directly on the organ (*e.g.* the eye) no perceptive act whatever will result⁴. Rather, perception is the result of a movement which is communicated by the object to some intervening substance, and is thence transmitted to the organ of perception. And thus it becomes an essential part of an analysis into the separate senses to inquire what is the nature of the *media* by which the sensible quality, which is the real object of sensation, is transmitted to the organ of perception.

¹ II. 6.

² II. 6, 418^a11: λέγω δ' ἴδιον μὲν ὃ μὴ ἐνδέχεται ἑτέρᾳ αἰσθῆσαι αἰσθάνεσθαι, οἷον ὀφθαλμοῦ χρώματος. Cp. Plato, *Theaetetus* 184 E: ἥ καὶ ἐθελήσεις ὁμολογεῖν ὅτι ἐτέρας δυνάμεις αἰσθάνει, ἀδύνατον εἶναι δι' ἄλλης ταῦτ' αἰσθέσθαι, οἷον ἂν δι' ἀκοῆς, δι' ὄψεως, ἢ ἂν δι' ὀφθαλμοῦ, δι' ἀκοῆς;

³ *De An.* II. 6, 418^a20.

⁴ II. 7, 419^a25—30. III. 13, 435^a15.

VIII. THE SPECIAL SENSES.

To Aristotle, as to the ordinary understanding, there are five distinct senses which require to be considered by the psychologist¹. The first chapter of the third book of the *Psychology* even tries to make it appear that we do not possess more: but the reasoning, however we may try to connect it, is distinctly inconclusive. These senses stand to one another in a relation not unlike that in which the different forms or faculties of soul are connected. Just as the vegetative capacities are regarded as the basis on which all the other faculties repose, so in like manner touch is the sense which all the other senses presuppose². Touch is, in fact, the most common of all the perceptive faculties: it is that which all animals necessarily possess: and its final cause is of a humbler nature than that of the other senses. Sight and hearing are directed to our moral advancement, our intellectual development—they are *τοῦ εὖ ζῆν ἕνεκα*: whereas touch and taste are intended for our bare subsistence, contribute to nothing but our animal existence, are in short simply *τοῦ ζῆν ἕνεκα*³. And hence presumably it is that Aristotle begins his analysis of the different senses with sight, and ends with touch, treating, that is, the senses not in the order of history but in that of nature. But it seems here more in accordance with the course we have previously followed to proceed from the lower to the higher, and thus begin with touch and gradually end with hearing and sight.

Touch⁴ is a sense of which Aristotle finds the analysis peculiarly perplexing. Each of the three points, which we noticed (p. lxii.) as requiring to be studied, presents some difficulty. As to its object—how comes it that the sense perceives qualities so opposite as hot and cold, dry and moist, hard and soft? Qualities so different as these cannot be brought under any one common

¹ *Hist. An.* IV. 8, 532^b29.

² III. 13, 435^b2.

³ *De Sensu*, I, 437^a4. *De An.* III. 3, 429^a3.

⁴ *De An.* II. 11, 422^b—424^a.

category ; and yet none the less, each sense, it is to be presumed, perceives one class of objects. The difficulty here stated Aristotle can hardly be said to solve. He reminds us that the other senses have also sometimes a variety of opposites between which they have to judge : and he finally determines the object of the sense of touch as the distinctive qualities of body as body¹, these qualities being further explained as those which characterize the different elements, viz. hot and cold, dry and moist. Yet these qualities, Aristotle elsewhere tells us, cannot be reduced to fewer² : and thus his answer really leaves the matter where it was. On the difficulties connected with the organ and the medium Aristotle is more satisfactory. Immediately, of course, the flesh might be supposed to be the organ of sense-perception. But this result is scarcely in accordance with what happens in the other senses. There, when the object is placed directly on the organ of sense, no perception whatever is possible : and it might be expected that were flesh the organ of touch it would be equally unable to perceive through immediate contact. The fact in short would seem to be that the real organ of touch is something inward³, and that the flesh is simply the medium by which the tangible qualities of body are transmitted. Nor does the fact that we *appear* to perceive these qualities by immediate contact invalidate such a conclusion. Were a membrane spread over the flesh, we should equally appear to perceive through contact on the part of the object with this membrane, while at the same time no one would maintain this membrane to be the organ of perception. Flesh then is simply the medium of touch⁴ : although it must be added that the medium here does not play the same part as it does in some among the other senses. It is, that is to say, not so much the vehicle as the concomi-

¹ 423^b27, ἀπταλ μὲν οὖν εἰσὶν αἱ διαφοραὶ τοῦ σώματος ἢ σώμα.

² *De Generatione*, II. 2, 330^a24, δῆλον τοίνυν ὅτι πάσαι αἱ ἄλλαι διαφοραὶ ἀνάγονται εἰς τὰς πρώτας τέτταρας· αὗται δ' οὐκέτι εἰς ἐλάττους· οὔτε γὰρ τὸ θερμὸν ὅπερ ὑγρὸν ἢ ὅπερ ξηρόν.

³ *Part. An.* II. 10, 656^b35, οὐκ ἔστι τὸ πρῶτον αἰσθητήριον ἢ σὰρξ ἀλλ' ἐντός.

⁴ *De An.* II. 11, 423^b26, ὥστε τὸ μεταξὺ τοῦ ἀπτικού ἢ σάρξ.

tant of sensation—the mode in which our sensations of touch are gained may be compared with the manner in which a man may be wounded through his shield¹.

Taste² is viewed by Aristotle as a species of touch, differing only in that, while touch is disseminated over the whole body, taste is restricted to a single part of it—the tongue. Its object is flavour (*χυμός*): and this is undoubtedly some modification of the moist or watery. But how it is that flavours originate from water is a question on which Aristotle finds divergent views are entertained. It cannot be, as Empedocles maintained, that water contains implicitly the various flavours in it; nor can it be, as Democritus perhaps held, that water is an atomic compound which contains the germs of all flavours, so that some may originate from one part, others from another part: rather it must be some affection of the water at the hands of some productive agent which produces flavour³. Flavour is accordingly defined by Aristotle as such a kind of affection produced in what is moist by what is dry as transforms the mere potential capacity of taste into actual exercise⁴. Of flavour various kinds are enumerated and compared with the different kinds of colour. The simple flavours are, like the simple colours, two in number—sweet and bitter—while the others may be regarded as modifications of these two primary kinds⁵. The organ of taste can be as little localized as can that of touch. Popularly, of course, the tongue is regarded as the part concerned with the perception of flavours: and Aristotle often speaks as if he held himself the tongue to be the instrument of taste⁶. But this of course is only a concession to the customary language

¹ 423^b14, τῶν ἀπτῶν οὐχ ὑπὸ τοῦ μεταξὺ ἀλλ' ἅμα τῷ μεταξὺ αἰσθανόμεθα ὥσπερ ὁ δι' ἀσπίδος πληγέτης.

² *De An.* II. 10. *De Sensu*, c. 4.

³ *De Sensu*, 4, 441^a20, λείπεται δὴ τῷ πάσχειν τι τὸ ὕδωρ μεταβάλλειν.

⁴ 441^b19, καὶ ἐστὶ τοῦτο χυμὸς τὸ γινόμενον ὑπὸ τοῦ εἰρημένου ξηροῦ πάθος ἐν τῷ ὑγρῷ τῆς γεύσεως τῆς κατὰ δύναμιν ἀλλοιωτικῶν εἰς ἐνέργειαν.

⁵ 422^b10; 442^a12, ὥσπερ δὲ τὰ χρώματα ἐκ λευκοῦ καὶ μέλανος μίξεώς ἐστιν, οὕτως οἱ χυμοὶ ἐκ γλυκέος καὶ πικροῦ.

⁶ *Hist. An.* IV. 8, 533^a26.

of mankind: in reality, Aristotle views the tongue as little more than medium in the transmission of the flavour of external objects. Neither however in taste nor touch is the medium some external body as it is in the case of sight or hearing: rather, whereas sight, smell and hearing act at a distance from their object, touch and taste operate in close proximity by means of almost actual contact¹. At first sight, water might be thought to be the medium in the case of taste: but still, though "if we were in the water we should perceive anything sweet cast into it, our perception would be the result, not of the intervening medium, but simply of the mingling of the sweet thing with the water²." Still it is at least evident that the tongue must be potentially moist in order to perceive the different flavours. At the same time it must preserve that condition of indifference and equidistance from the two extremes of moist and dry without which no perceptive faculty is capable of action³. And thus the sick, Aristotle adds by way of explanation, have but an imperfect sense of flavours because their tongue is imbued with such an amount of moisture as makes it impossible for them to acquire the taste of other flavours.

Smell⁴ Aristotle finds a sense which is somewhat difficult to analyse: just as up to the present day it has been treated with much less success than any of the other senses. The reason for this backward condition of psychology in regard to odours is, Aristotle thinks, due to its defective development in man. While man possesses a much finer sense of touch than any other animal, "we do not," he adds, "possess the sense of smell in anything like the same degree of delicacy as that in which it is possessed by other animals." In the case of man, scent would seem to be merely a sort of concomitant upon feelings of pain and pleasure and to be perceived only indirectly,

¹ II. II, 423^b6.

² 422^a11, οὐκ ἔν δ' ἂν ἡ αἰσθησις ἡμῖν διὰ τοῦ μεταξὺ ἀλλὰ τῷ μιχθῆναι τῷ ὕγρῳ.

³ 422^b3.

⁴ *De An.* II. 9. *De Sens.* c. 5.

much in the same way as some animals possess the sense of sight only as a vague consciousness of a distinction between the dangerous and dangerless. In this comparative obscurity of the sense of smell, Aristotle has recourse to taste as a percipient faculty of not uncognate character and much more fully understood. Taste and smell indeed present to Aristotle's mind a constant parallel to one another. The object of both is a combination of the moist and dry: but while flavour is contained in water only, the object of smell or odour exists at once in air and water. Odour in fact belongs to what is dry, just as flavour belongs to what is moist¹: and the object of smell is thus said to be a dryness which holds taste or sap within it (ἐγχυμος ξηρότης²). The popular account of odour as a smoke-like exhalation (καπνώδης ἀναθυμίασις) Aristotle views as on the whole untenable³. Such an exhalation cannot possibly exist in water, and it is in water to a great extent that smells come to be perceived.

The organ and the medium of smell are closely in accordance with this quality of odours. Air and water may both serve as media⁴. An object in short is perceived as odorous in so far as it is adapted to 'rinse out' as it were the taste-like dryness which constitutes as we have seen the general character of smell⁵. This would seem to be a result which both air and water are able to perform: and the question therefore arises, what is the common characteristic present at once in air and water which makes them thus to disseminate and transmit the fragrant qualities of body? To this question Aristotle has no definite answer to give us. In one passage he speaks of this common quality as something 'nameless⁶,' nor do we elsewhere find any more satisfactory answer. The organ of smell is

¹ 422^a6, ἔστι δ' ἡ ὁσμὴ τοῦ ξηροῦ, ὥσπερ ὁ χυμὸς τοῦ ὑγροῦ. ² *De Sensu*, 5, 443^a7.

³ *Ibid*, 5, 443^a21. No doubt in c. 2, 438^b24 we have ἡ δ' ὁσμὴ καπνώδης τίς ἐστιν ἀναθυμίασις asserted as the ground for referring the organ of smell to fire, but the passage in question seems a mere *hypothesis* to shew how on the popular assumption that each sense corresponds to some element or other, smell would have to be referred to fire. See Bäumker, p. 47, who in 16 reads φανερόν ὡς εἰ δεῖ.

⁴ *De An.* 421^b8.

⁵ *De Sensu*, 442^b29, πλυντικὸν ἢ ῥυπτικὸν ἐγχύμου ξηρότητος.

⁶ *De An.* II. 7, 9, 419^a32.

represented as corresponding with the media that communicate the qualities of odour. It is therefore composed of air and water, and it cannot act except we simultaneously draw in the breath: if we exhale or restrain the breath, smell cannot operate¹.

The sense which has been just described stands midway between the elementary sensations with which we started and those sense-functions which remain to be discussed. While touch and taste act apparently by actual contact, odours are perceived by the intervention of some medium or other—a mode of operation which is still more prominent in sight and hearing. And while touch and taste are indispensable conditions of animal existence, the sense of smell is almost as it were a luxury in life—an appendage to the faculties which are essential to vitality itself. Still more is this true of the two remaining senses. Sight and hearing play an important part in our higher cognitive development. But they do so to different degrees. Sight, as the sense which reveals the greatest number of differences in objects, is indeed directly the most intellectual sense: but hearing, by the knowledge which it brings of others' minds, is incidentally the most important factor in our spiritual knowledge: so that, adds Aristotle, the blind are generally more intelligent than the deaf².

Hearing³ is discussed by Aristotle with less detail than the importance of the sense itself would seem to merit. It would almost seem, in fact, as if, as Trendelenburg suggests, the *Treatise on Sense* had lost a section which would have explained the character of sound and hearing in accordance with the statement of the *Genesis of Animals*⁴. But at the same time Aristotle's analysis of hearing and its object is comparatively full. The real object of hearing, Aristotle would seem to hold, is that vibration of the air which we describe as sound or noise.

¹ 425^a5; 421^b14.

² *De Sensu*, I, 437^a16, διόπερ φρονιμώτεροι οἱ τυφλοὶ τῶν ἐνεῶν καὶ κωφῶν.

³ *De An.* II. 8.

⁴ *De Gen. Animal.* v. 7, 786^b23; 788^a34.

Hence then it is air which forms the essential element in enabling us to hear. "Every object so constituted as to set in movement the air extending continuously in one stream until it reach the hearing is sonorous¹." Air then is the medium of sound: and hearing is the result of a movement in the air within the ear communicated by a movement of the air which lies outside. Closely connected with this is the explanation Aristotle gives of the distinction between high notes and low. High or sharp notes, he explains, are those which move the sense of hearing to a great extent within a short period of time²—that is they are those which offer a great number of vibrations: low notes on the contrary are those which move the ear but slightly in a larger space of time—that is they are those which present a less number of vibrations. Shortly in fact high notes are the result of rapid, low or grave notes the result of slow vibrations. But perhaps the most interesting section of Aristotle's chapter on hearing is the distinction which he draws between mere sound or noise and actual speech. Mere sound, he points out, may be made by the tongue and in other ways: for voice, on the contrary, the organ striking must be animate and accompanied by some mental image (*μετὰ φαντασίας τινος*): voice being in fact sound possessed of meaning (*ψόφος σημαντικός*)³.

Sight⁴, as might be expected from the important place it occupies in the economy of knowledge, is discussed by Aristotle at greater length than any of the other senses. Beside the chapter devoted to it in the *Psychology* itself, it occupies the greater portion of the *Treatise on the Senses*, and there is a special *Tractate on the collection of qualities which constitute its object*

¹ 420^a3.

² *De An.* II. 8, 420^b3. Cp. *Timaeus*, 67 B, ὅπως μὲν οὖν φωνὴν θῶμεν τὴν δι' ὠτων ὑπ' αἵρος ἐγκεφάλου τε καὶ αἵματος μέχρι ψυχῆς πληγὴν διαδιδόμενην, τὴν δὲ ὑπ' αὐτῆς κίνησιν, ἀπὸ τῆς κεφαλῆς μὲν ὀρχομένην, τελευτώσαν δὲ περὶ τὴν τοῦ ἥπατος ἔδραν, ἀκοήν' ὅση δ' αὐτῆς ταχεῖα, ὀξεῖαν, ὅση δὲ βραδυτέρα, βαρυτέραν.

³ II. 8, 420^b31. Cp. and contrast *Polit.* I. 1, 1253^a10 where Aristotle distinguishes between φωνή and λόγος: ἡ μὲν οὖν φωνὴ τοῦ λυπηροῦ καὶ ἡδεὸς ἐστι σημείον· ὁ δὲ λόγος ἐπὶ τῷ δηλοῦν ἐστι τὸ συμφέρον καὶ τὸ βλαβερόν.

⁴ *De An.* II. 7; *De Sensu*, 2. 3.

—viz. colour (*περὶ χρωμάτων*). Colour itself is a secondary quality (to adopt Locke's phraseology) which has the power of throwing the actually pellucid into movement¹: for it is this excitation of the pellucid or diaphanous and no material emanation (*ἀπόρροιαί*) which explains the visibility of colour. What then, we have to ask, is this pellucid (*διαφανές*)? It is that which is not visible by itself but becomes visible only through a foreign colour (*δι' ἀλλότριον χρώμα*). So, for instance, air or water are pellucid: they are so, because apart from their specific properties they contain the same quality as inheres within the upper air or aether: pellucidity in fact is an attribute of no definite body or elements except the aether. Now this pellucid substance is, as potential, colourless, and dark: it becomes actual through fire or some such agency. But this presence of fire in the pellucid is just what produces light, just as its absence on the other hand produces darkness. Light therefore may itself be defined as the actual expression or full play of the pellucid as pellucid: practically we may describe light as the colour of the pellucid. Colour then is the quality which sets the actually pellucid into motion: so that since this actually pellucid matter is so actual by means of light, it follows that colour is not visible without the help of light—light, that is to say, is a condition of vision.

This account of colour cannot certainly be said to be distinguished by lucidity. At times it seems a mere see-saw between two terms—colour and pellucidity—which are made in turn to explain each other. But we shall not perhaps be misrepresenting Aristotle's doctrine if we regard colour as an intensification of light. This view of colour seems at least to correspond with Aristotle's second definition. Colour, he says, is the limit of the pellucid, the increased expression of transparency which shews itself upon the surface of a body². So understood, colour at once gives us two primary hues—white

¹ 418^a31, πᾶν δὲ χρώμα κινητικόν ἐστι τοῦ κατ' ἐνέργειαν διαφανοῦς. Cp. 419^a9.

² *De Sensu*, 3, 439^b11, ὥστε χρώμα ἂν εἴη τὸ τοῦ διαφανοῦς ἐν σώματι ὠρισμένῳ πέρασ.

and black—corresponding to the light and shade which play upon the surfaces of substances—and from these two primary colours all the others may easily be derived. Into the manner in which Aristotle conceives the other colours to be formed from this primary white and black it would be out of place to enter here. But the student of the physics of Aesthetics will find much that will repay him in the pages of the Tract on Sense which discuss this subject, and may find some similarity between the theories there enunciated and those of Goethe's *Farbenlehre*.

The media by which the qualities of coloured objects are transmitted need not detain us long. Air and water are the two which Aristotle enunciates. They act as such in virtue of that pellucid quality which they share in common with the upper aether. At the same time they are themselves colourless and thus well adapted by their neutral character to transmit the colours of material objects. Aristotle accordingly rejects entirely that theory of sensible emanations with which he has been sometimes so strangely credited. Rather in fact he may be thought to have anticipated in some respects the undulatory theory of light and vision.

The organ of sight is of course the eye. But the perceptive power is not located in the external organ. Apart from that reference to the heart which we will notice afterwards, it is particularly the inner chamber or *κορη* which receives the impressions transmitted by the intervening medium from the coloured object¹. The internal substance of the eye is therefore composed of water, a view corroborated empirically by the fact that when the eye is injured water is seen to gush forth from it². But Aristotle's analysis of the visual organ does not end with this description of it as composed of water. He explains that this water is produced by the brain, and refers to various ducts (*πόροι*) by which it is conveyed to the inner chamber of

¹ *De Part. An.* II. 8, 653^b25; *Hist. An.* I. 8, 491^b20, τὸ δ' ἐντὸς τοῦ ὀφθαλμοῦ, τὸ μὲν ὑγρόν, ᾧ βλέπει, κορή.

² *De Sensu*, 2, 438^b5, καὶ εὐλόγως τὸ ἐντὸς ἐστὶν ὕδατος· διαφανὲς γὰρ τὸ ὕδωρ, τὸ δὲ περὶ τοῦτο μέλαν, τὸ δ' ἐκτὸς τούτου λευκόν.

the eye. It would be however an entire mistake to suppose that Aristotle viewed the act of vision as dependent on the brain or had any knowledge of the optic nerves. It is the heart and not the brain which Aristotle regards as the ultimate organ of vision, and he would seem to have formed no conception of the *functions* which the optic nerves discharge¹.

Aristotle's analysis of the single senses may be readily allowed to be possessed of more than merely antiquarian interest. Compared with the account of sense-perception given in the *Timæus* of Plato, Aristotle's results mark a real advance in physiological observation. Plato had indeed (*Timæus* 67 c) grasped to some extent the dependence of sound on oscillations of the air, but instead of shewing how the physiological structure receives and retains those oscillations he makes hearing simply a "vibration which begins in the head and ends in the liver." To Plato, in fact, the senses are, as Prof. Jowett says, "not instruments, but rather passages through which external objects strike upon the mind. The eye is the aperture through which the stream of vision passes, the ear is the aperture through which the vibrations of sound pass. But that the complex struc-

¹ The chief passages bearing on this subject are as follows: *De Gen. An.* II. 6, 744^a5, ὁ δ' ὀφθαλμὸς σῶμα...ὕγρὸν καὶ ψυχρὸν καὶ οὐ προϋπάρχον ἐν τῷ τόπῳ...ἀλλ' ἀπὸ τῆς περὶ τὸν ἐγκέφαλον ὑγρότητος ἀποκρίνεται τὸ καθαρώτατον διὰ τῶν πόρων οἱ φαίνονται φέροντες ἀπ' αὐτῶν πρὸς τὴν μήνιγγα τὴν περὶ τὸν ἐγκέφαλον. *De Gen. An.* II. 6, 743^b35, αἷτιον δ' ὅτι τῶν ὀφθαλμῶν αἰσθητήριον ἐστὶ μὲν ὥσπερ καὶ τὰ ἄλλα αἰσθητήρια ἐπὶ πόρων. *Hist. An.* I. II, 492^a21, περαίνουσι δὲ καὶ οἱ ὀφθαλμοὶ εἰς τὸν ἐγκέφαλον καὶ κεῖται ἐπὶ φλεβίου ἐκάτερος. *Hist. An.* I. 16, 495^a11, φέρουσι δ' ἐκ τοῦ ὀφθαλμοῦ τρεῖς πόροι εἰς τὸν ἐγκέφαλον, ὁ μὲν μέγιστος καὶ ὁ μέσος εἰς τὴν παρεγκεφαλίδα, ὁ δ' ἐλάχιστος εἰς αὐτὸν τὸν ἐγκέφαλον. *De Sensu*, c. 2, 438^b12, ἥδη γὰρ τισι πληγείσιν ἐν πολέμῳ παρὰ τὸν κρόταφον οὕτως ὥστε ἐκμηθῆναι τοὺς πόρους τοῦ ὀφθαλμοῦ ἐδοξε γενέσθαι σκότος, ὥσπερ λύχνου ἀποσβεσθέντος, διὰ τὸ οἶον λαμπτήρᾳ τινα ἀποτυμῆσθαι τὸ διαφανὲς καὶ τὴν καλουμένην κόρην. Sprengel, in his *History of Medicine*, tried to identify the πόροι of Aristotle with the nerves, and of the three πόροι mentioned the first might be thought to represent the ramus ophthalmicus, the second the optic, and the third the oculo-motor; but, as Bona Meyer says (p. 432), Aristotle had at least no idea of the *function* of nerves in the πόροι he mentions. And similarly Dr Ogle in his note on *Parts of Animals*, II. 10, thinks that in *Gen. An.* II. 6, Aristotle is speaking of optic nerves, and so also in *De Sensu*, c. 2, but considers that as Aristotle speaks also of πόροι in relation to other sense-organs, it is unlikely he can have understood the office of the nerves in general.

ture of the eye or the ear is in any sense the cause of sight and hearing he seems hardly to be aware" (*Dialogues of Plato* III. p. 581). In part no doubt the same defect appears in Aristotle. But the descriptions of the eye and ear in Aristotle's writings shew an amount of accurate observation which we look for in vain in Plato.

Defective however as Plato is on the analytic and physiological side, there is another respect in which he far surpasses Aristotle. The organs of sense, Plato is particular to note, are not as perceptive merely mechanical and disconnected members of our body. "No one," he remarks in the *Theaetetus*, "can suppose that we are Trojan horses, in whom are perched several unconnected senses, not meeting in some one nature, of which they are the instruments, whether you term this soul or not, with which through these we perceive objects of sense¹" (Jowett's Translation). But of such a reference to soul or mind there is *directly* but little mention in Aristotle's explanation. The description of the sensitive capacities as themselves a soul, the identification of the different αἰσθητήρια with a so-called ψυχὴ αἰσθητική would almost seem to have blinded Aristotle to the insufficiency of mere physical processes to explain a psychological result. His account therefore of the special senses leaves untouched a number of problems which the perceptive processes immediately involve. It is different when our philosopher leaves the physical aspect of the senses, and proceeds to discuss the mode in which the perceptive organs act in concert as a cognitive whole. His results are then of no mere antiquarian interest: the problems which he investigates are those with which we still are occupied. How do our sensations of *qualities*—white, sweet, &c.—give us knowledge of concrete *things*? How do we distinguish between the reports of one sensation and those of another? How is it that our sensations sometimes deceive us? how does this complexity of organs, some of which are even double, unite itself into

¹ *Theaetet.* p. 184 D, δεινὸν γάρ πον εἰ πολλαὶ τινες ἐν ἡμῖν, ὥσπερ ἐν δουρείοις ἵπποις, αἰσθήσεις ἐγκάθηται, ἀλλὰ μὴ εἰς μίαν τινὰ ἰδέαν, εἴτε ψυχὴν εἴτε ὃ τι δεῖ καλεῖν, πάντα ταῦτα ξυντείνει, ἥ διὰ τούτων οἷον ὀργάνων αἰσθανόμεθα ὅσα αἰσθητά.

one single perception? and what is the character of that mysterious consciousness which accompanies us in our perceptive acts? Such are some of the questions which Aristotle now proceeds to investigate. He solves them, through the doctrine of a common or central sense (*κοινὴ αἰσθησις*) in which our separate sensations are collected, arranged, and classified.

IX. COMMON OR CENTRAL SENSE.

The particular senses—sight, smell, hearing and the rest—are all, we have already seen, restricted to some individual quality (*ἴδιον αἰσθητόν*) which can only be perceived by the sense adapted to it. Thus sight takes account only of the colour of objects, smell only of their odour, while touch restricts itself to the hardness or softness, the heat or coldness of external objects. But these single senses as such never really constitute the act of sense-perception. Such perception is not merely a matter of the outward organ: perception is a movement of the *mind* through the body: and it is only by reference to this unity of all the senses in a common mental faculty that sense-perception can take place. Without relation to this superior faculty—this *κύριον αἰσθητήριον*—no one of the single senses would be fitted for perception. The need of such a central sense—of a perceptive faculty which stands to each one of the separate senses as the mind in general stands to each one of its four faculties—is apparent from the mere duplicity which marks the organs of sensation. For just as the body is throughout twofold, so also each of the senses, if we except the touch and taste, appears as a double faculty¹, and yet notwithstanding our two eyes, two ears, two nostrils, we still perceive but one colour, one sound, one odour.

This central sense, of which the general nature has been thus far sketched, plays two main functions in relation to the work of

¹ *De Part. An.* 656^b32; 669^b18.

sense-perception. On the one hand, it is required for the distinction and the comparison of the separate communications of the single senses: on the other hand, it is the means by which a consciousness of sensation accompanies the work of sense-perception¹.

1. *The distinction of our separate sensations.* Each single sense, we have already seen, perceives nothing but one single quality or group of qualities. How then is it that we distinguish between the qualities, whether they belong to one and the same sense or be communicated by different senses? The second case constitutes of course the more perplexing question of the two, and is therefore the form in which the problem is generally stated by Aristotle². What, he asks, is the faculty which distinguishes between white and sweet? The sense of taste communicates to us the feeling of a flavour which is sweet, the sense of eyesight reveals to us the quality of white. But the sense of taste knows nothing of the sensations of sight, the sense which perceives colour knows nothing of the character of flavour. Yet none the less the distinction is there: we not only distinguish white from black, sweet from bitter, but we also separate between the sensation of white and the simultaneous sensation of sweet. Here then two things require to be at once united and disunited, connected and disconnected: they must be subjected to an act of comparison and judged different in consequence of this comparison.

A discrimination of this kind cannot be made by two separate faculties: it is to one single faculty that the two separate

¹ III. 2. 10, 426^b12, ἐπεὶ δὲ καὶ τὸ λευκὸν καὶ τὸ γλυκὺ καὶ ἕκαστον τῶν αἰσθητῶν πρὸς ἕκαστον κρίνομεν, τίτι καὶ αἰσθανόμεθα ὅτι διαφέρει; ἀνάγκη δὴ αἰσθῆσαι· αἰσθητὰ γὰρ ἔστιν. Cp. III. 7. 4, 431^a20; *De Sensu*, c. 7. *De Somno*, 2, 455^a15, ἔστι δὲ τις καὶ κοινὴ δύναμις ἀκολουθοῦσα πάσαις, ἣ καὶ ὅτι ὁρᾷ καὶ ἀκούει [omit καὶ with E] αἰσθάνεται· οὐ γὰρ δὴ τῇ γε ὅρᾳ ὅτι ὁρᾷ. καὶ κρίνει δὴ καὶ δύναται κρίνειν ὅτι ἕτερα τὰ γλυκέα τῶν λευκῶν, οὔτε γεύσει οὔτε ὅρᾳ οὐτ' ἀμφοῖν, ἀλλὰ τινι κοινῇ μορίῳ τῶν αἰσθητηρίων ἀπάντων.

² III. 7, 431^a24, τί γὰρ διαφέρει τὸ ἀπορεῖν πῶς τὰ μὴ ὁμογενῆ κρίνει ἢ τὰναντία οἷον λευκὸν καὶ μέλαν;

sensations must be transmitted in order that they may be compared and separated¹. The case therefore is well compared by Aristotle to what would happen in the case of two opinions between which it was necessary to distinguish. "Were I to perceive one thing, you to perceive another, a third person would be needed to pass judgment on the two²." There is required then some one function of the mind by means of which it gains perception of all objects³—some common central organ of perception in which the separate communications of the senses are combined. But how, asks Aristotle, can this central faculty manifest such contrary action as it would seem necessarily to involve? It must take cognizance of two separate sensations and yet meanwhile it must preserve that unity which can alone compare two different sensations: it must within one and the same moment of time present before itself two or more reports of sense⁴. The same thing cannot, it might be thought, move at one and the same time in two opposite directions as undivided and within an undivided space of time. But there is a distinction by the help of which the difficulty may be met. In place, in time and in number, the faculty in question is, we may say, one and indivisible: but in the nature of its action, in its use and application (*τῷ εἶναι*) it is different⁵. Physical analogies may help us further to comprehend this double and apparently contrary action on the part of central sense. We may compare it to the point, taken in its widest sense and understood of either time or space⁶. Such a point is at once one and two:

¹ 426^b17, οὔτε δὴ κεχωρισμένοις ἐνδέχεται κρίνειν ὅτι ἕτερον τὸ γλυκὺ τοῦ λευκοῦ, ἀλλὰ δεῖ ἐνὶ τινὶ ἀμφω δῆλα εἶναι.

² 426^b19, οὕτω μὲν γὰρ κἂν εἰ τοῦ μὲν ἐγὼ τοῦ δὲ σὺ αἰσθοιο, δῆλον ἂν εἴη ὅτι ἕτερα ἀλλήλων. δεῖ δὲ τὸ ἐν λέγειν ὅτι ἕτερον.

³ *De Sensu*, 7, 449^a8, ἀνάγκη ἄρα ἐν τι εἶναι τῆς ψυχῆς ᾧ ἅπαντα αἰσθάνεται.

⁴ 426^b22, ὅτι μὲν οὖν οὐχ ὅλον τε κεχωρισμένοις κρίνειν τὰ κεχωρισμένα, δῆλον..... ἀλλὰ μὴν ἀδύνατον ἅμα τὰς ἐναντίας κινήσεις κινεῖσθαι τὸ αὐτὸ ἢ ἀδιαίρετον καὶ ἐν ἀδιαίρετῳ χρόνῳ.

⁵ 427^a4, τῷ εἶναι μὲν γὰρ διαίρετόν, τόπω δὲ καὶ ἀριθμῷ ἀδιαίρετον. *De Sensu*, 7, 449^a19, αἰσθάνοιτ' ἂν ἅμα τῷ αὐτῷ καὶ ἐνί, λόγῳ δ' οὐ τῷ αὐτῷ.

⁶ *De An.* 111. 2, 427^a10, ἀλλ' ὥσπερ ἦν καλοῦσί τινες στιγμήν ἢ μίαν καὶ ἢ δύο,

it is an undivided unit complete within itself, and yet this point can be at once the end of one line and the beginning of another—the same point, that is to say, can be regarded as both one and two: it may exist both as divided and as undivided. Or indeed the question—how can this central faculty embrace two contrary qualities and yet not lose its characteristic unity is only the same problem as presents itself when we consider how one and the same object is at once white and sweet: the co-existence of the objective qualities is no less inexplicable than the co-existence in the mind of their subjective counterparts¹. In the one case and in the other we must conclude that that which is essentially one can yet manifest itself in two directions: or, in other words, what is marked numerically and locally by unity may yet be conceived of as different.

This exercise of comparison which Aristotle thus assigns to the central or the common sense is not however restricted to the work of distinguishing the separate communications of the senses: it displays further its synthetic power in grasping the common properties which are involved in the existence of the qualities of the body². For at the same time as we perceive (say) a colour, we perceive it further as a coloured surface or *magnitude*: at the same time as we have the sensation of notes

ταύτη καὶ διαίρετή. Cp. III. 7. 4, 431^a21, ἔστι γὰρ ἐν τι· οὕτω δὲ καὶ ὡς ὅρος. The *στιγμὴ* in question is to be taken in its most general sense as referring either to time or space. Brentano's interpretation of it as = *nūn* is supported by *De Coelo*, III. 1, 300^a14, τὸ γὰρ νῦν τὸ ἄτομον οἷον στιγμή γραμμῆς ἔστιν: but any such definite interpretation is unnecessary, especially as Aristotle, among the synonyms he uses, nowhere speaks of a 'now,' but always of a point or limit. The ordinary sense of point is indeed all that is required. v. *Phys.* IV. 11, 220^a10, καὶ γὰρ ἡ στιγμή καὶ συνέχει τὸ μῆκος καὶ ὁρίζει· ἔστι γὰρ τοῦ μὲν ἀρχῇ τοῦ δὲ τελευτῇ.

¹ *De Sensu*, 7, 449^a13, ἡ ὥσπερ ἐπὶ τῶν πραγμάτων αὐτῶν ἐνδέχεται, οὕτω καὶ ἐπὶ τῆς ψυχῆς.

² *De An.* III. 1, 425^a15, where the *κοῖνα* are described as those ὧν ἐκάστη αἰσθῆσει αἰσθανόμεθα κατὰ συμβεβηκός. This is generally thought to be in contradiction with 425^a27, but I have tried to translate the whole passage in such a way as will make the two places quite consistent. (Cp. Bäumker, p. 65.) So also in III. 3. 12, 428^b23, the *κοῖνα* are identified with ἐπόμενα τοῖς συμβεβηκόσιν οἷς ὑπάρχει τὰ ἴδια, and to κίνησις καὶ μέγεθος is added ἃ συμβέβηκε τοῖς αἰσθητοῖς.

following on one another we perceive the fact of *number*: and at the same time again as we feel a surface hard or soft we perceive it as some kind of *figure*. Beyond then the particular objects of the single senses, we require to recognise a number of qualities ('categories' we should call them in modern phraseology) which enter more or less into each of our sensations—"which," in Aristotle's words, "we perceive immediately in connection with each perception." These common objects of perception (*αἰσθητὰ κοινὰ*) are variously enumerated. Sometimes five are mentioned—movement, rest, number, figure, magnitude: at other times unity as a species of number is added: but there is one passage in which time is appended, and in the Treatise on Sense the common objects of perception are extended so as even to include the rough and smooth, the sharp and blunt¹.

Movement is generally regarded as the chief among these common sensibles. The rest may be viewed in fact as, in some way or other, modifications of it. Thus, for example, rest is known by absence of movement, and number is perceived by the negation of what is continuous. Evidently, therefore, since this movement is itself not the product of any one sense but the result of sight and touch in combination, the common objects of perception cannot be referred to any one single organ of particular sensation. For, Aristotle argues, if these common qualities were thus apprehended by any single sense they could be so only in the way in which the perception of some colour gives us the perception of sweet—*i.e.* because we have perceived the two together at some time in our past experience, and thus in the perception of the one are reminded simultaneously of the other: or else they must be a mere incidental addition to sensation in the way that from a sensation of something white we come to perceive an individual—'the son of Diares,' as the subject of which white was a property. But, Aristotle continues, the common objects of sensation are the

¹ *De Sens.* c. 4, 442^b4. *De An.* II. 6, 418^a17.

result of a common general sense, and not any merely incidental appendage to our sensations: they therefore cannot be regarded as a mere concomitant or *συμβεβηκός* of sensation. Nor even were they to be apprehended as in the former of our two alternatives, would they even then be classed among the acts of some particular sense-faculty. For to perceive as there described the object of one sense through the perception of another sense really requires a unity of sense: the senses perceive that two qualities are united in one object—*e.g.* yellow and bitter—not in their own isolated character, but as a combined faculty (*οὐχ ἢ αὐταί, ἀλλ' ἢ μία*) and therefore the common sensibles cannot be the product of any special organ of sense¹. Rather, in fact, these universal characteristics of all objects of sensation are provided by the central faculty of sense: sight and other senses may contribute largely to a knowledge of them, but in the last resort it is the common sense, the primary source of all sensation, which presents them to our observation².

2. *The Consciousness of Sensation.* This comparison of separate sensations in which as we have seen lies the chief action of the central sense involves immediately another property. To judge of two sensations we require a power of holding them before the mind, a power of knowing them as *our* sensations—a power which transcends the mere sensation of a colour or of a smell as such and recognises it as something belonging to ourselves. What then is this faculty by which we perceive that we perceive—by which we not only see and hear, but perceive that we see and hear? It must, Aristotle holds, be the primary fundamental faculty of all perception—that same central sense which we have previously recognised. For, he reasons, this consciousness of sight (for instance) must be the

¹ *De An.* III. 1. 425^a30.

² *De Mem.* 1. 450^a12, *φανερὸν ὅτι τῷ πρώτῳ αἰσθητικῷ τούτων ἡ γνώσις ἐστίν.* Aristotle specially argues that those common sensibles are a result of sensation and not of thought, because memory involves time (*ὅταν ἐνεργῇ τῇ μνήμῃ προσαισθάνεται ὅτι πρότερον*).

result either of sight itself or of some sense different from this. But, if we assume the latter, then since the sense which perceives sight also perceives its object, we shall have two senses—sight and the sense perceiving sight—relating to one and the same object. This however, Aristotle implies, is absurd, since in this case the one sense would be quite superfluous. It follows therefore that this consciousness of sight is a result of sight itself¹. But the sight here mentioned is not the immediate organ of vision. For, Aristotle continues, were the sense which thus perceives the sensation of sight something different from sight itself, the process would either go on to infinity because this sense-perceiving sense would itself require another to perceive it, or else we must at last assume a sense which is itself conscious of its own perception. And this, he adds, we must regard as belonging to the original perceptive faculty (*ἐπὶ τῆς πρώτης τοῦτο ποιητέον*).

This reference of the consciousness of sensation to that primary power of sense-perception on which all the special senses in some degree depend, is expressed still more clearly in a passage in the Tract on Sleep. "There is," it is there said, "a common power which accompanies all the special senses, and by which the mind perceives both that it sees and that it hears: since it is not by sight it sees that it sees²." Unless in fact we are prepared to credit Aristotle with a wonderful amount of inconsistency we must regard the one passage as illustrative of the other. So taking them we cannot but allow that if Aristotle asserts in the one passage "it is not by sight mind sees that it sees," and in the other passage writes "sight perceives that it perceives," he is using sight in the former passage as the mere particular organ, whereas in the other it is identified with that original faculty of sense which serves as basis to the whole system of the senses. The consciousness of sense-perception is then, we may conclude, an attribute of that same central sense

¹ *De An.* III. 2.

² *De Somno* 2, 455^a15.

which enabled us to compare and distinguish the different reports transmitted by our isolated senses. The two functions are in fact but different aspects of one and the same process: for the comparison of the reports of sense involves as its presupposition the conscious recognition of them as our own, the faculty, in other words, of holding them before the mind.

This central sense is thus the basis of our whole perceptive capacity; it is the beginning and the principle of all sensation (*ἀρχὴ τῆς αἰσθήσεως*). But, further, just as each one of the senses has its physical counterpart or organ; and as the soul or *ψυχή* itself is not independent of the body; so in the same way the central sense is regarded as connected with a portion of our body. It might have been supposed that this physical organ of perception would have been the brain, as Aristotle's predecessors had believed. But, Aristotle expresses himself strongly against the view which would connect sense-perception with the cerebral machinery. The brain, he says distinctly in the *Treatise on the Parts of Animals*, is not the cause of our perceptions, seeing that it is devoid of sensation and is itself but like many of the superfluous discharges¹. Particularly does he call attention to the fact that the brain produces no sensation on being touched². A superficial reader of the *Tract on Sense* might indeed suppose that the brain is supposed to be essentially connected with the sense of sight. But the three 'passages' which lead from the brain to the eye have nothing to do with the completion of the

¹ *De Part. An.* II. 10, 656^a16, εὐαίσθησας ἔνεκεν ἄσαρκον εἶναι φασιν· αἰσθάνεσθαι μὲν γὰρ τῷ ἐγκεφάλῳ, τὴν δ' αἰσθησιν οὐ προσέσθαι τὰ μόρια τὰ σαρκώδη λαν' τούτων δ' οὐδέτερον ἔστιν ἀληθές.....τῶν τ' αἰσθήσεων οὐκ αἴτιος οὐδεμῶς, ὅς γε ἀναίσθητος καὶ αὐτός ἐστιν ὥσπερ ὅτιοι τῶν περιττωμάτων. ἀλλ' οὐχ εὐρίσκοντες διὰ τίνα αἰτίαν εἶναι τῶν αἰσθήσεων ἐν τῇ κεφαλῇ τοῖς ζῴοις εἶσι, τοῦτο δ' ὁρῶντες ἰδιαιτερον ὄν τῶν ἄλλων μορίων ἐκ συλλογισμοῦ πρὸς ἄλληλα συνδύζουσιν. ὅτι μὲν οὖν ἀρχὴ τῶν αἰσθήσεων ἔστιν ὁ περὶ τὴν καρδίαν τόπος, διώριστα πρότερον ἐν τοῖς περὶ αἰσθήσεως. Cf. Plato, *Timæus* 76 B. For Aristotle's misconceptions as to the nature of the brain, see Ogle's note on the passage (*Parts of Animals*, p. 174).

² *De Part. An.* II. 7, 652^b2, ὅτι μὲν οὖν οὐκ ἔχει συνέχειαν οὐδεμίαν πρὸς τὰ αἰσθητικὰ μόρια, δῆλον μὲν καὶ διὰ τῆς ὕψεως, ἔτι δὲ μᾶλλον τῷ μηδεμίαν ποιεῖν αἰσθησιν θιγγανόμενος, ὥσπερ οὐδὲ τὸ αἶμα οὐδὲ τὸ περίττωμα τῶν ζῴων.

perceptive act: they simply, as has been already pointed out, conduct from the brain that aqueous humour which is employed to receive the object of sensation. The brain in short stands in no real connection with the work of sense-perception, but is viewed simply as serving as a cooling apparatus to counteract the excessive warmth of the heart¹.

The heart then rather than the brain is the organ in which Aristotle holds the central faculty of sense to be located². By its very position alone the heart is well adapted to discharge the duties of a central sense: placed midway between the front and back it is the natural meeting-place of all the different reports of sense³. Nor indeed is it only of the operations of perception that the heart is thus the central principle: it is the centre also of the faculties of growth and reproduction⁴. The heart may therefore be regarded in the Aristotelian System as the physical basis, the physiological counterpart of mind. But it would be a mistake, as Neuhäuser has fully pointed out, to identify the central sense, the original faculty of the perceptive act, with the heart which Aristotle thus describes⁵. True indeed if we confined our observations simply to the physical and physiological treatises of Aristotle we could hardly but conclude that Aristotle views the heart as actually the organ which effects that comparison and distinction of sensations which we have before described. But, it should be noticed, Aristotle nowhere says that this central common faculty of sense-perception is itself

¹ *De Part. An.* II. 7, 652^b10, ἐπεὶ δὲ ἅπαντα δεῖται τῆς ἐναντίας ῥοπῆς ἵνα τυγχάνῃ τοῦ μετρίου καὶ τοῦ μέσου, διὰ ταύτην τὴν αἰτίαν πρὸς τὸν τῆς καρδίας τόπον καὶ τὴν ἐν αὐτῇ θερμότητα μεμηχάνηται τὸν ἐγκέφαλον ἢ φύσις.

² *De Juvent.* 3, 469^a10, ἀλλὰ μὴν τό γε κύριον τῶν αἰσθήσεων ἐν ταύτῃ (τῇ καρδίᾳ) τοῖς ἐναλμοῖς πᾶσιν· ἐν τούτῳ γὰρ ἀναγκαῖον εἶναι τὸ πάντων τῶν αἰσθητηρίων κοινὸν αἰσθητήριον.

De Gen. An. II. 6, 743^b25, διὰ μὲν οὖν τὸ τὴν ἀρχὴν ἐν τῇ καρδίᾳ τῶν αἰσθήσεων εἶναι καὶ τοῦ ζῴου παντὸς αὕτη γίνεται πρῶτον.

³ *De Juvent.* 1, 467^b28, ἐπεὶ οὖν τῶν ἰδίων αἰσθητηρίων ἐν τι κοινόν ἐστιν αἰσθητήριον, εἰς ὃ τὰς κατ' ἐνέργειαν αἰσθήσεις ἀναγκαῖον ἅπαντῶν, τοῦτο δ' ἂν εἴη μέσον τοῦ πρόσθεν καλουμένου καὶ ὀπισθεν.

⁴ 469^a6: 469^b5.

⁵ *Aristoteles' Lehre von dem sinnlichen Erkenntnisvermögen.*

the heart, all he says is that it takes place *in* the heart, or, at the most, he holds that the principle and source of our perceptions is the region round the heart. And however confusedly Aristotle states his view, he would seem to hold, not that the heart itself compares and distinguishes our different sensations: but simply that it is *through* the heart that the process is effected: that it is in short the condition and concomitant, not the cause of our perceptions.

The question therefore of the relation of the heart to the perceptive act resolves itself into the more general question of the relation between mind and body as conceived by Aristotle. But, as we have already seen, body as such is, from Aristotle's point of view, simply dead and useless matter, and it is only through the co-operation of the mind that it attains to its full meaning. Perception is in fact, to repeat a passage which we have already noticed, an affection of the mind through the body: it involves the combination of at once physiological and psychological conditions for its exercise. The mind can therefore be affected only through the material organs which form its substratum: while the body only attains to the faculty of real perception through the immanent action of the mind. And thus if that consciousness and comparison of sensations which is required to combine and distinguish different sensations can take place only through the assistance of the blood-producing, centrally located heart: it must be remembered, on the other hand, that it is only through that mind or soul which is the truth of body that the heart can go beyond the physical processes for which it is adapted.

It was not improbably in a simple spirit of antagonism to Plato that Aristotle referred the common categories which enter into our perceptions to the sensitive faculty itself. Plato had distinguished in the clearest terms between the particular object of the separate senses and the general conceptions which entered into all of them. The perceptions of one power, he remarks in the *Theaetetus* (p. 185), cannot be perceived by an-

other faculty—what is perceived by hearing cannot be perceived by sight, the object of sight cannot be perceived by hearing. Further, he goes on, each of these senses is identical with itself and different from any other. But these common qualities of sameness and difference cannot be perceived by either of the senses in question themselves: they are as little competent to judge of this as they (in place of taste) can decide whether two objects are bitter or not. The same result holds good of all general categories—being and not-being, likeness and unlikeness, sameness and difference, unity and number. There is no special organ (*ἴδιον ὄργανον*), Plato holds, by which they are to be perceived, but the mind by its own action apprehends the general ideas which enter into every object. And similarly in the *Republic*, Plato shews how number arises out of the inability of sense to distinguish between its different reports—how the mind, finding that the senses report to it about one thing as now hard now soft, is obliged to consider whether each of its reports are one or two. (Bk. VII, 524).

The opposition which is here apparent between the Platonic and the Aristotelian Psychology is probably one of the many instances in which the difference between the two thinkers is little else than one of terminology. It seems no doubt as if Aristotle, in ascribing the categories which enter into every object of experience to sense itself, or even central sense, was necessarily in direct antithesis to Plato, who refers them to what he calls the 'mind.' But this central sense of Aristotle means evidently much the same as Plato's 'mind.' As the power which contributes a consciousness of sensation and enables us to distinguish and compare sensations, it is clearly not a sensitive but an intellectual operation. And a writer less enslaved than Aristotle was to terminology would have left the problem to be explained by reference to the indivisible action of the mind as the synthetic factor in our existence. The doctrine of a central or common sense remains an instance of the fictitious entities which an analytic psychology pushed to extremes tends to create.

X. IMAGINATION, DREAMS AND MEMORY.

Sense-perception, we have seen, is viewed by Aristotle as a sort of movement excited in the substance of the corporeal organ of sensation by the medium which intervenes between the organ and the quality which constitutes the object of sensation. Now this movement or impression does not always vanish with the disappearance of the object which has caused it¹. There are of course many cases in which a stronger sensation overpowers and buries a weaker, just as a bright fire puts out a feebler or a greater sorrow overshadows a smaller². The struggle for existence among our sensations, the mutual play in which our different impressions cross and cover one another, is recognised by Aristotle in a manner which the followers of Herbart have been particularly ready to recognise. Amid this crossing and recrossing of sensations there are some which make their way upward to the surface and leave a trace or relic (*μνη*) of themselves. The sensitive impression in short stamps itself as it were upon the sense and its effect continues after the object of sensation is withdrawn. There may of course be different degrees in this persistence of sensations. The impression may be such that it requires a conscious effort to revive it: or it may be so vividly printed that we cannot for a time get rid of it. Thus, Aristotle remarks, we see nothing if we suddenly transfer ourselves from sunlight to a darkened room, because the movement which the light excited still persists within the eyes: or if again we close our eyes after gazing long at a brilliant light we are presented with a succession of pictures of different colours which ultimately close with black³. This is an extreme instance of the manner

¹ *De Insomn.* 1, 460^b2, ἀπελθόντος τοῦ θύραθεν αἰσθητοῦ ἐμμένει τὰ αἰσθήματα αἰσθητὰ ὄντα.

² *De Sensu*, c. 7, 447^a15, αἰεὶ ἢ μείζων κίνησις τὴν ἐλάττω ἐκκρούει. *De Insomn.* 3, 461^a1.

³ *De Insomn.* 2, 459^b9, μεταφερόντων τὴν αἴσθησιν ἀκολουθεῖ τὸ πάθος, οἷον ἐκ τοῦ

in which a sensitive impression persists and leaves its trace behind it: and it is upon this fact that imagination (*φαντασία*) as conceived by Aristotle depends.

Imagination is accordingly defined by Aristotle as "the movement which results upon an actual sensation¹:" more simply we may describe it as the after-effect of a sensation, the continued presence of an impression after the object which first excited it has been withdrawn from actual experience. Hobbes indeed was little else than translating Aristotle when he wrote: "All fancies are motions within us, reliques of those made in the sense²." The pictures of imagination in fact are simply a result of the general law of nature that the movement of one substance prolongs itself and gets communicated to another³. And hence it is that in the *Rhetoric*, Imagination is described as weak sensation or, in the language of Hobbes, "decaying sense⁴."

Further light is thrown by Aristotle on this conception of Imagination by contrasting it with several other of the mental operations with which it is not to be identified. Imagination, the Psychology itself explains, must not be regarded as either sensation, opinion, thought or scientific knowledge. With sensation it is of course intimately associated. The faculty for receiving sensations is in fact fundamentally identical with that which forms pictures of imagination: but they manifest themselves in different ways: they are different aspects of a faculty which may be looked at now in this way now in that⁵. At the same time there remains a decided difference between sensation

ἥλιον εἰς τὸ σκότος· συμβαίνει γὰρ μηδὲν ὁρᾶν διὰ τὴν ἐπὶ ὑποῦσαν κίνησιν ἐν τοῖς ὀφθαλμοῖς κατὰ τὸ φῶς κ.τ.λ.

¹ *De An.* III. 3, 429^a1, ἡ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς αἰσθήσεως τῆς κατ' ἐνέργειαν γιγνομένη. Cp. 459^a17. 'Imagination' means much more than *φαντασία*, but seems the nearest English equivalent. *Vorstellung* corresponds much more closely to Aristotle's conception.

² Freudenthal has collected a number of passages in which Hobbes' expressions strikingly recall Aristotle.

³ *De An.* III. 3, 428^b10.

⁴ *Rhetor.* I. II, 1370^a28, ἡ φαντασία ἐστὶν αἰσθησις τις ἀσθενής.

⁵ *De Insomn.* I. 459^a15, ἔστι μὲν τὸ αὐτὸ τῷ αἰσθητικῷ τὸ φανταστικόν, τὸ δ' εἶναι φανταστικῷ καὶ αἰσθητικῷ ἕτερον.

and imagination. Sense requires an object to excite it into action, while imagination may arise without the help of any outward object: sense is always ready to act when needed, imagination is much more capricious: sensation is the property of every animal, imagination is a more exclusive faculty (the bee would seem to have it, the worm would seem to be without it): the reports of sense are as such always true, whereas the pictures of imagination are often the reverse: and lastly sense and imagination often stand in inverse ratio to one another—we have an image when our senses are remiss—nay, images frequently present themselves to us when our eyes are closed¹.

Opinion or *δόξα* is however the mental phenomenon from which Aristotle thinks it especially important to distinguish Imagination. Even if opinion be not like scientific knowledge always true, but like imagination liable to error, there is one property connected with opinion which marks it definitely off from imagination. For opinion is attended with belief (*πίστις*): it implies a readiness to act upon the view it entertains: and while imagination seems a characteristic of many animals, belief of this sort would seem to attach to none. Belief again implies an act of thought or reason: and such reason is no attribute of animal existence. Nor, Aristotle continues, will it mend the matter, to regard imagination as a combination of opinion and sensation. Upon this supposition, the opinion under consideration must be of the same object as the sensation: that is, it is not the combination of the idea of good and the sensation of white which will constitute imagination: the sensation and the idea must alike refer to the same quality or object. The result then of this theory must be to identify imagination with the direct immediate conception of a sensation². But conception, argues Aristotle, does not in this way correspond with the presentations of our image-forming faculty. The 'image' which we form of the sun is that of a surface one foot in diameter: our

¹ *De An.* III. 3, 428^a1—18.

² 428^b1, τὸ οὖν φαίνεσθαι ἐστὶ τὸ δοξάζειν ὅπερ αἰσθάνεται μὴ κατὰ συμβεβηκός.

'opinion' is that it is larger than our earth. Imagination at the same time is not possible without sensation: and it follows therefore by this method of elimination that it is that after-effect of sense-perception as which we have already described it. As such it will of course vary in the degree of truth or falsehood it implies with the character of the sensation to which it is attached. If the sensation of which it is the continuance be that of the special qualities of sense, the corresponding picture of imagination will be practically true: should it on the other hand be the 'decaying' relique of our common or our incidental sense-perceptions, it will of course be several degrees from truth.

The phenomena of dreams, hallucination and illusion form a direct corollary to Aristotle's doctrine of Imagination. Illusion in general is the result of the fact that the faculty of forming pictures of imagination and that of framing judgments are different and employ different standards¹. So it is that people form wrong impressions under the influence of passion: or that people in a fever suppose they see animals depicted on the wall. Often of course, Aristotle points out, in the case of such delusions one sense comes in to rectify another. An object held between the crossed fingers appears double to the touch: yet, Aristotle continues, we do not assert the object is twofold, because the sight is more authoritative than the touch². But there is a more characteristic form in which deception may originate—a form closely connected with the explanation Aristotle gives of imagination. "The reason" says he "of deception is that pictures of imagination present themselves not only when the object of sensation is itself in movement: it presents itself also if the sense itself be put in movement, supposing it be moved in the same manner as it would have been moved by the object of sense itself³." So it is, Aristotle explains, that the earth appears

¹ *De Insomn.* 2, 460^b16, αἴτιον δὲ τοῦ συμβαίνειν ταῦτα τὸ μὴ κατὰ τὴν αὐτὴν δύναμιν κρίνειν τό τε κύριον καὶ ᾧ τὰ φαντάσματα γίνονται.

² 460^b20.

³ *De Insomn.* 2, 460^b23—26, τοῦ δὲ διεψεύσθαι αἴτιον ὅτι οὐ μόνον τοῦ αἰσθητοῦ

to people when they sail to be in movement, because the organ of vision is moved in the same way as it would be if the earth were really in movement. Illusion then in this case is the result of the fact that a bodily excitation suggests and originates a picture of the very object which might actually have caused this sensuous affection.

This theory of Illusion serves also with Aristotle as an explanation of dreaming. Just as the movement of the eye in the person sailing gives rise to the idea that the earth itself is moved : so similarly a dream is the result of a movement excited whether from without or from within, in our bodily organs. The conditions which create dreaming may thus be said to be present just as much by day as during night. But there is a particular circumstance which comes in to explain the greater efficacy of these conditions during sleep¹. And this circumstance depends so far upon the nature of sleep itself that it may be advisable to add here a word on Aristotle's theory upon this subject.

Sleep and waking are, according to Aristotle, two phenomena which characterize animals as opposed to plants, and they belong simply to those creatures which possess a faculty of sense-perception². Both sleep and waking are thus affections of our sensitive capacities : but as contraries they stand towards those functions in two entirely opposite relations. Waking, in short, is identical with the free play of our faculties of sense (τῷ λελύσθαι τὴν αἰσθησιν), sleep is, on the contrary, the result of restriction and quiescence on the part of these same faculties³. But this freedom or imprisonment of sense is not a matter which affects one or other of the senses separately; it affects them altogether. Sleep,

κινουμένου φαίνεται ἀδήποτε, ἀλλὰ καὶ τῆς αἰσθήσεως κινουμένης αὐτῆς, ἐὰν ὡσαύτως κινήται ὥσπερ καὶ ὑπὸ τοῦ αἰσθητοῦ.

¹ *De Insomn.* 3, 460^b28, οὐ μόνον ἐγρηγορότων αἱ κινήσεις αἱ ἀπὸ τῶν αἰσθημάτων γινόμεναι...ἀλλὰ καὶ ὅταν γένηται...ὕπνος, καὶ μᾶλλον τότε φαίνονται. μεθ' ἡμέραν μὲν γὰρ ἐκκρούονται.

² *De Somn.* 1, 454^b28, ἀνευ μὲν γὰρ αἰσθήσεως οὐχ ὑπάρχει οὐθ' ὕπνος οὐτ' ἐγρήγορσις.

³ 454^b10, ὁ γὰρ ὕπνος τι τοῦ αἰσθητικοῦ μορίου ἐστίν, οἷον δεσμός καὶ ἀκίνησις τις.

that is to say, is, no less than waking, a phenomenon of that central sense which we have seen serves as foundation for the work of perception. But the organ within which the operations of this central sense is carried on is, we have seen before, the heart: and sleep thus comes to be an effect of the action of the heart. Sleep, in fact, is not *any* incapacity whatever on the part of our perceptive faculty: it must be distinguished from such unnatural phases of this incapacity as insanity, choking or fainting. In most cases it is a result of the process of digestion—the food, that is to say, which has been taken into the body rises in the process of digestion to the head, causes there a heaviness, and descending, expels the heat: it may also result from labour or disease, but simply in both cases because the upper parts of the body have been made cool in the manner we have described. And therefore Aristotle's most explicit account of the phenomenon of sleep refers it to the circuit in reverse order and in considerable volume (*ἀντιπερίστασις ἀθρόως*) made by the substantial nutriment which has been carried by the natural heat within the body on to the primary organ of sensation¹.

The movements therefore which result in dreams are present just as much by day as during night: but by day they are expelled through the simultaneous action of the senses and the understanding. "But at night, by reason of the inactivity of the particular senses, these movements are carried downward to the origin and principle of our perceptive faculties, and so become clear and conspicuous, after the commotion of this current has been composed²." Thus then the blood in its descent toward the heart carries with it movements whether they be potential or

¹ *De Somn.* 458^b25, τί μὲν οὖν τὸ αἷτιον τοῦ καθεύδειν εἶρηται, ὅτι ἡ ὑπὸ τοῦ σωματώδους τοῦ ἀναφερομένου ὑπὸ τοῦ συμφύτου θερμοῦ ἀντιπερίστασις ἀθρόως ἐπὶ τὸ πρῶτον αἰσθητήριον· καὶ τί ἐστὶν ὁ ὕπνος ὅτι τοῦ πρῶτου αἰσθητηρίου κατάληψις πρὸς τὸ μὴ δύνασθαι ἐνεργεῖν.

² *De Insomn.* 461^a4, νύκτωρ δὲ δι' ἀργίαν τῶν κατὰ μόριον αἰσθήσεων καὶ ἀδυναμίας τοῦ ἐνεργεῖν, διὰ τὸ ἐκ τῶν ἔξω εἰς τὸ ἐντὸς γίνεσθαι τὴν τοῦ θερμοῦ παλῖρροίαν, ἐπὶ τὴν ἀρχὴν τῆς αἰσθήσεως καταφέρονται καὶ γίνονται φανεραὶ καθισταμένης τῆς ταραχῆς.

actual. Of these movements now one, now another, comes to the surface: they emerge and operate when freed from the stronger motion which keeps them in check: just as (Aristotle adds the illustration) artificial frogs rise to the surface of the water when the salt with which they are surrounded melts away. Released, then, from the other movements which obstruct them, they protract their movement outwards to the little blood which still remains within the organs of sense, and thus give rise to impressions and create pictures of imagination much in the same way as the rapid changes in the clouds cause them to be viewed as men and centaurs. Dreams, then, Aristotle concludes, are movements which give rise to images within our organs of perception (*κινήσεις φανταστικάλ ἐν τοῖς αἰσθητηρίοις*). There are of course cases in which dreams are the result of semi-conscious sensations, half-heard sounds or half seen lights: and reflections and ideas are often added to them. But in itself dreaming is simply the result of the movement of our sensations during the period of sleep as such¹.

The materialistic character of Aristotle's conception of *φαντασία* need now be scarcely noted. The pictures which imagination, either in our waking moments or in our dreams, presents to us are simply the result of a physiological process, in which the movement of the organ of sensation continues the impression which either originally excited it, or might at least have originally done so. The pictures or images themselves are conceived in genuine materialistic fashion—as seal impressions, through which it becomes possible to see that which is itself absent, but is present in its representative effect: they are traces, or moulds, left behind in our organism, and thus, where there is too much movement, or where the brain is either too hard or too soft, the impressions we are now discussing do not manage to subsist.

The materialist aspects of the process do not however exhaust Aristotle's account of our image-forming faculty. We must re-

¹ *De Insomn.* 462^a29, τὸ φάντασμα τὸ ἀπὸ τῆς κινήσεως τῶν αἰσθημάτων, ὅταν ἐν τῷ καθεύδειν ᾗ, ἢ καθεύδει, τοῦτ' ἐστὶν ἐνύπνιον.

member, as we have had occasion to remark before, the background given to the whole Aristotelian Psychology by the *ψυχή* as the truth or reality of body. Particularly we must take into account the fact that sense-perception is no mere material assimilation of the outward world but in its last resort depends upon that central faculty of sense, through which we have the power of comparing and combining our sensations. Thus the pictures of imagination, though dependent on the sensations which have passed away, are not of a merely sensuous character: they become through that *κοινὴ δύναμις* of sense generalized conceptions of an object—they are *αἰσθήματα* but *ἄνευ ὕλης*: and the images of our imaginative faculty often approximate closely to the ideas of thought¹. It is within its semi-sensuous images that reason comes to grasp its ethical ideas; and its images, though immediately limited to the domain of sense, may become the basis of deliberation and thought². Thought indeed, as well as sense, Aristotle himself says, may originate imagination; and in another passage the imaginative faculty is looked at as a species of thought³.

The representative images of phantasy are to Aristotle the stepping-stone to memory and recollection. It seems in fact at first sight difficult to draw any decided line between these reliques of sensation which form the pictures of imagination and those survivals of the past which constitute a memory; and Aristotle himself does not always distinguish them. At the same time there is a real difference between them. The phantasm carries with it little connotation of truth or falsehood in the form of a reference to some external object, and it implies no relation to any time in past experience at which it was originally presented. Memory however carries with it both these attributes—it implies at once an object to which it corresponds, and

¹ *De An.* III. 8, 432^a9, τὰ γὰρ φαντάσματα ὥσπερ αἰσθήματά ἐστι πλὴν ἄνευ ὕλης.

² *Ibid.* III. 7, 431^b1, τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν ταῖς φαντάσμασι νοεῖ.

³ *Ibid.* III. 10, 433^a10, εἴ τις τὴν φαντασίαν τιθεῖ ὡς νόησιν τινα.

it is attended by a consciousness of some time in the past at which the event remembered actually happened¹. Memory then involves time; and consequently, Aristotle maintains, it is only those animals which possess a sense of time that are capable of remembering what has happened.

Memory is accordingly defined by Aristotle as "the permanent possession of a sensuous picture as a copy which represents the object of which it is the picture²," and he adds further that it is the function of our ultimate faculty of sense which is also that by which we gain a consciousness of time³. The strength of memory thus depends to a very considerable extent upon the tenacity with which the original impression was received. Hence, writes Aristotle, memory does not on the one hand attach to those who are under great movement and excitement, whether from passion or from youth, because in such a case the movement in which sense consists and the impression which it involves falls, as it were, on running water: nor, on the other hand, can the impression fix itself in those who are dried up and crumbling away like ruined buildings. Neither, in short, the very young nor the very old are gifted with much power of memory: and similarly, the very quick and very slow are alike deficient in remembering, the one because the image representing their perception does not stay after it is caught, the other because this image never gets a hold at all⁴.

This retention of our past impressions by the aid of Memory serves as basis for a much more active application of the mental faculties. This new retrospective function is what Aristotle knows as recollection or reminiscence (*ἀναμνήσκεσθαι*)—the faculty, that is to say, of calling back to consciousness the per-

¹ *De Mem.* i, 449^b22, ἀεὶ γὰρ ὅταν ἐνεργῇ κατὰ τὸ μνημονεύειν, οὕτως ἐν τῇ ψυχῇ λέγει, ὅτι πρότερον τοῦτο ἤκουσεν ἢ ᾗσθητο ἢ ἐνόησεν.....διὸ μετὰ χρόνου πάντα μνήμη.

² 451^a15, φαντάσματος ὡς εἰκόνος οὐ φάντασμα ἐξίς.

³ 450^a12.

⁴ 450^a32, διὸ καὶ τοῖς μὲν ἐν κινήσει πολλῇ διὰ πάθος ἢ δι' ἡλικίαν οἶσιν οὐ γίνεται μνήμη, καθάπερ ἂν εἰς ὕδωρ ῥέον ἐμπίπτουσας τῆς κινήσεως καὶ τῆς σφραγίδος.

ceptions and ideas which memory has treasured up within its storehouse of the past. Such recollection may take place either intentionally or unintentionally: we may, that is to say, recall some event of past experience either accidentally as it were or by the help of a distinct effort to call it back to mind; but in either case it is regulated by certain laws which it is one of the great psychological merits of Aristotle to have tabulated for us. The laws which thus express the mode in which the mind attempts to recall its past impressions are what have commonly been designated since Aristotle's day, the Laws of the Association of Ideas. But to Aristotle, it must be added, the laws in question have little or none of the significance which they have acquired in the hands of modern inquirers. To him they are simply a statement of the manner in which we seek to regain some fragments of our knowledge which have for the moment got outside our consciousness. Recollection in short being the recalling of our past impressions, it follows that the success of our efforts to recall them will depend to no inconsiderable extent on the degree to which we can recall the order in which other impressions stood to that of which we are in search. But our impressions follow one another in memory in an order similar to that in which the actual sensations succeeded one another. Recollection thus involves a study of the laws of sequence in the order of our ideas: and Aristotle analyses the method of recalling past impressions in the following manner. "When engaged in recollection we seek to excite some of our previous movements, until we come to that which the movement or impression of which we are in search was wont to follow. And hence we seek to reach this preceding impression by starting in our thought from an object present to us or something else whether it be similar, contrary or contiguous to that of which we are in search; recollection taking place in this manner because the movements are in one case identical, in another case coincident and in the last case partly overlap¹."

¹ *De Mem.* 2, 451^b16; *ὅταν οὖν ἀναμνησκώμεθα, κινούμεθα τῶν προτέρων*

Similarity, contrariety and contiguity are thus to Aristotle the three principles by which for purposes of recollection our ideas and impressions have to be guided. Our sensuous movements and impressions really follow one another in an order corresponding to that of external nature. Thus, the more order and arrangement there is in the elements of our experience—the better connected our ideas are—the more easily will they be remembered¹. And again the greater the number of times we have established a connection between our ideas, the greater will be the ease with which we can recall them. Habit in short becomes a second nature: and the constant conjunction of two phenomena in outer experience will lead to their being so connected in the mind that the one will never shew itself without the other².

With the exercise of recollection we have gone considerably upwards in the scale of animal existence. No doubt this recollection is like all preceding operations in great part a bodily affection (*σωματικὸν πάθος*): it rests upon that theory of physical movement and physical impression which underlies, as we have seen, Aristotle's whole theory of sense-perception. But at the same time this process of reminiscence, though thus dependent upon bodily conditions, involves, to stimulate these conditions, an act of mind which goes decidedly beyond a mere material phenomenon. We have already (p. xxxv.) referred to the passage (I.4, 408^b15) in which Aristotle views it as starting from the action of the mind just as perception ends in such a mental principle. Recollection in fact would seem to be confined to man. And the reason is that recollection implies a process of reasoning—a distinct selection of means to

τινα κινήσεων ἕως ἂν κινηθῶμεν μεθ' ἣν ἐκείνη εἰώθεν. διὸ καὶ τὸ ἐφεξῆς θηρεύομεν νοήσαντες ἀπὸ τοῦ νῦν ἢ ἄλλου τινὸς καὶ ἀφ' ὁμοίου ἢ ἐναντίου ἢ τοῦ συνεγγυς. διὰ τοῦτο γίνεται ἡ ἀνάμνησις· αἱ γὰρ κινήσεις τούτων τῶν μὲν αἱ αὐταί, τῶν δ' ἅμα, τῶν δὲ μέρος ἔχουσιν, ὥστε τὸ λοιπὸν μικρὸν ὃ ἐκινήθη μετ' ἐκείνο.

¹ 452^a3.

² 452^a28, διὸ ἂν πολλάκις ἐννοοῦμεν ταχὺ ἀναμνησκόμεθα· ὥσπερ γὰρ φύσει τόδε μετὰ τόδε ἐστίν, οὕτω καὶ ἐνεργείᾳ· τὸ δὲ πολλάκις φύσιν ποιεῖ. Mr J. C. Wilson suggests reading here *συνηθεία* for *ἐνεργεία*.

ends in what Aristotle calls deliberation¹. The mere animal may remember; it may possess the faculty of memory and retain its past impressions and experiences. But of the facts it thus retains it can make no use; it is unable to call up the treasures of its experience at will: it simply remembers, it never recollects. And the meaning of this is that the animal as such is unable to make the past to bear upon the present, it fails to get outside the limits of its particular sensations, it cannot apprehend the universal, the general idea under which individuals are included². But all this is involved in the work of recollection. To apprehend two sensations as similar involves an understanding of them in their general relations: and it is just the universal which is the beginning and the intermediate notion in these links which are presented in the sequence of our ideas (*ἔοικε δὲ τὸ καθόλου ἀρχὴ καὶ τὸ μέσον πάντων*). But to allow this is to hold that recollection presupposes thought or reason as the faculty which goes beyond the individual and interprets it as an universal. And thus we pass almost imperceptibly from the recollection of our past impressions to the faculty of Thought or Reason.

XI. ARISTOTLE'S THEORY OF THOUGHT.

The most perplexing part of Aristotle's psychology is undoubtedly his theory of thought. There are many circumstances which explain this difficulty. There is the fragmentary character of the chapters in which Aristotle enunciates his views upon the subject. There is the apparent contradiction which runs through the whole epistemology of Aristotle and which makes him emphasize now the part of sense, now the work of reason in building up knowledge. There is the further fact

¹ 453^a10, τὸ ἀναμνησκέσθαι ἐστὶν ὡς οἶον συλλογισμὸς τις.

² *Eth. Nic.* VII. 3, 1147^b4.

that reason seems from one point of view almost an excrescence and luxury in Aristotle's system. If there be any mental function rather than another which would be assigned to reason by a modern psychologist, it would be the work of distinguishing between sensations, of translating sensations into things, of apprehending number and other forms which give meaning to the intimations of our senses. But this work, we have already seen, is regarded by Aristotle as effected not by thought but simply by that central sense, which also gives the consciousness of sense. Little room would seem thus left vacant for the reason when so much is done by sense. And the difficulties which thus arise, if partly solved, are also partly increased by the distinction Aristotle draws between a passive and a creative reason—in fact the many diverse interpretations which have been given to a few words of Aristotle's on this subject form one of the greatest stumblingblocks to any student of Aristotle's philosophy.

Some light however may be thrown into the chaos of Aristotle's theory if we at once avail ourselves of this distinction and state very briefly what would seem to be the meaning of thus distinguishing two aspects or applications of our intellectual powers. To advance then immediately the view which the following pages will try to verify, Aristotle would seem to mean that while our intellectual powers are on the one hand merely receptive—while they merely elaborate and, by processes of discursive thought, systematize the materials of thought—these materials of thought only become so, only get formed into an intelligible world, by an act of reason which has gone on from the creation of the world and is in turn employed by each of us. Shortly then the creative reason is the faculty which constantly interprets and as it were keeps up an intelligible world for experience to operate upon, while the receptive reason is the intellect applying itself in all the various processes which fill our minds with the materials of knowledge.

Reason, says Aristotle, is the faculty through which the

soul is ratiocinative and conceives opinions—the passage is not less tautologous in the original—and in another passage he speaks of it as the part by which the mind knows and understands¹. Aristotle accordingly regards reason as in many ways the direct antithesis of sense. The old psychologists were much mistaken when they viewed perception as identical with thought and explained thought itself as a material process². The very possibility of error on the part of thought shews it to be something which must be distinguished from the communications of the special senses: they, as we have seen before, are as such always true. Sense again requires to go outside itself to find its object: reason finds its object as it were within and thus is free to act according to our will. For sense is limited to the particular and individual: reason deals rather with the universal and the abstract³.

Sense and reason are in fact related to one another just as are the concrete and the abstract, the immediate phenomenon and its essential nature. Some things indeed are so abstract to begin with that we cannot make the separation—mind and the being or abstract idea of mind are identical—but in the majority of substances we can draw the distinction—distinguish for example between water and the idea of water, flesh and the idea of flesh. Sense then, we may say, enables us to know the concrete thing, the particular qualities of heat or cold; whereas thought relates to the abstract nature, the real idea of such objects⁴.

Between these two applications of our cognitive capacities Aristotle does not, however, draw immediately any hard line of division. Between the individual and the universal, the

¹ 429^a23, λέγω δὲ νοῦν ᾧ διανοεῖται καὶ ὑπολαμβάνει ἡ ψυχὴ. 429^a10, ᾧ γινώσκει τε ἡ ψυχὴ καὶ φρονεῖ.

² III. 3, 427^a26.

³ II. 5, 417^b22, αἰτίων δ' ὅτι τῶν καθ' ἑκαστον ἡ κατ' ἐνέργειαν αἰσθησις, ἡ δ' ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πῶς ἐστι τῇ ψυχῇ. διὸ νοῆσαι μὲν ἐπ' αὐτῷ, ὁπόταν βούληται, αἰσθάνεσθαι δ' οὐκ ἐπ' αὐτῷ· ἀναγκαῖον γὰρ ὑπάρχειν τὸ αἰσθητόν.

⁴ III. 4, 429^b10.

concrete and the abstract, there is not so great an interval as Plato had supposed. Clearly then the faculties which apprehend these two aspects of phenomena cannot be sharply marked off from one another. They are in fact, Aristotle thinks, not so much different faculties as different applications of the same faculty, and he accordingly compares them to the same line as it is now straightened now bent back upon itself. The cognition of the senses resembles the straight line—sense that is to say knows its object directly and immediately. The cognition of reason resembles rather the bent line which returns upon itself—that is to say, reason in becoming conscious of the essential ideas of phenomena is but as it were finding itself in things, and the mind after perceiving from reason the idea which explains the phenomenon, brings it back again to reason as its home. But it is the same line which is now bent now straight: it is only a difference of aspect which subsists between the cognition of sense and that of thought¹. The difference indeed is not much greater than that which we might try to draw between the knowledge of an abstract idea and that of the *idea* of the same idea. Just in fact as it is only a different aspect of the reason which considers now the straight line now the idea of the straight line: so with regard to sense and thought we must remember that it is one and the same object of which sense comprehends the concrete, thought the immaterial aspect, and that the distinction in the faculties is no greater than that which subsists between the aspects of the object².

Not only however does Aristotle thus coordinate in some respects the cognition of the senses with the cognition of the

¹ 429^b15, τῷ μὲν οὖν αἰσθητικῷ τὸ θερμὸν καὶ τὸ ψυχρὸν κρίνει καὶ ὧν λόγος τις ἡ σάρξ· ἄλλω δὲ ἥτοι χωριστῷ ἢ ὡς ἡ κεκλασμένη ἔχει πρὸς αὐτὴν ὅταν ἐκταθῇ τὸ σαρκὶ εἶναι κρίνει. Neuhäuser makes νοῦς the nominative to κρίνει. But though *grammatically* this seems the easier interpretation, a more general subject seems required. Teichmüller's view (*Studien* p. 494) that the crooked line is that in which sensuous images are *gathered* together by thought into a concept, the straight line that in which they are scattered and isolated as merely individual, is ingenious but scarcely more. See my note on the passage itself.

² III. 4, 429^b21, καὶ ὅλως ἄρα ὡς χωριστὰ τὰ πράγματα τῆς ὕλης, οὕτω καὶ τὰ περὶ τὸν νοῦν. Cp. *De Sensu*, c. 7, 449^a15.

reason: sense further serves to explain the mode in which reason operates. The same formula of assimilation, of suffering, and receiving, which served for our nutritive and sensitive capacities, is thought also adapted to explain our higher intellectual functions. Reason is affected by or suffers from its object (*πάσχει*), just as sense, we saw, received impressions from the qualities of outward things. But if even sense was not a merely passive state, if even there an innate power was presupposed, enabling it to separate the form from the matter and grasp its objects in their formal aspects, still more must this be the case with the exercise of thought. And accordingly Aristotle no sooner suggests that reason may be like sense and therefore be affected by its object than he adds it must be therefore unaffected—it must, that is to say, in order that it may receive its object, be its superior rather than its subject¹. He accepts then so far the expression of Anaxagoras that reason is something unblended with material objects, something which remains untrammelled by the outward world and which can therefore master it by knowing it².

Anaxagoras' expression however suggests to Aristotle's mind a difficulty whose solution enables him to explain still more clearly the place of reason in the economy of knowledge. If thought be something apart from things, something outside the world, how is knowledge ever to be attained (*εἰ ὁ νοῦς μὴθεν ἢ μὴθεν ἔχει κοινόν, πῶς νοήσει*)? Thought, it has been said, is a kind of receptivity. But if one thing is to be acted on, another to act upon it, there must be some common element or factor to combine them (*ἢ γὰρ τι κοινὸν ἀμφοῖν ὑπάρχει τὸ μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν*). Some light is thrown upon the problem

¹ 429^a13, *εἰ δὴ ἐστὶ τὸ νοεῖν ὥσπερ τὸ αἰσθάνεσθαι, ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ ἢ τι τοιοῦτον ἕτερον ἀπαθὲς ἄρα δεῖ εἶναι, δεκτικὸν δὲ τοῦ εἰδους καὶ δυνάμει τοιοῦτον ἀλλὰ μὴ τοῦτο*. Themistius would seem to have read *ἐτέρων ἀπαθὲς*, but the correctness of the ordinary text is confirmed by line 29, *οὐχ ὁμοία ἢ ἀπάθεια τοῦ αἰσθητικοῦ καὶ τοῦ νοητικοῦ*.

² 429^a18, *ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι, ὥσπερ φησὶν Ἀναξαγόρας, ἵνα κρατῇ, τοῦτο δ' ἐστὶν ἵνα γνωρίζῃ· παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλότριον καὶ ἀντιφράττει*.

by the further problem, how reason itself can become the object of thought. If, argues Aristotle, thought or reason is an object of thought just because it is thought (εἰ μὴ κατ' ἄλλο (νοῦς) αὐτὸς νοητός), then, on the supposition that everything becomes thinkable and knowable in the same way (ἐν δὲ τὸ νοητὸν εἶδει) we must assume that *other* things require (in order to be thought and known) to be endowed with reason; or, if reason be not an object of thought just because it is reason, we must suppose that reason, instead of being free from admixture, has some element incorporated with it which makes it thinkable in the same way as other external things are (ἡ γὰρ τοῖς ἄλλοις ὁ νοῦς ὑπάρχει, ἡ μεμιγμένον τι ἔξει ὃ ποιεῖ νοητὸν αὐτὸν ὥσπερ τὰλλα). But both these alternatives are eventually rejected: we must neither reduce things to thought nor thought to things, neither spiritualize matter nor materialize spirit. Rather we must allow the presence of a common factor between subject and object in the processes of thought (ἡ τὸ μὲν πάσχειν κατὰ κοινόν τι). And by virtue of this community reason may be said to hold in itself implicitly the whole world of experience (δυνάμει πῶς ἐστι τὰ νοητὰ ὁ νοῦς)—thought, that is to say, is not only within us but without us—and the world of reason outside us is present potentially in the world of thought within—the microcosm contains implicitly the macrocosm. But this subjective world of thought is to begin with a mere *à priori* possibility: it is a mere form without the actual experience which will give these forms reality (ἀλλ' ἐντελεχεία οὐδὲν πρὶν ἂν νοῇ). And thus the relation of thought to the world is not unlike that of a writing tablet to the knowledge which will be graven on it¹. The metaphor is not to be pressed as though it implied a purely empirical account of thought and knowledge. The comparison refers simply to one point, and it is misused when taken as equivalent to Locke's white paper or other sensualist similes. All that Aristotle means to bring out by his comparison is that just as a sheet of

¹ 430^a1, δεῖ δ' οὕτως ὥσπερ ἐν γραμματεῖ ψῆ μηθὲν ὑπάρχει ἐντελεχεία γεγραμμένον· ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ.

paper may be regarded as containing *a priori* and implicitly all that will be written on it, so similarly the intellect or reason may be viewed as implicitly containing its objects, *which like itself are rational*.

To the question then, How is knowledge possible? How do we think things? Aristotle answers that we do so only in so far as the *object* of our experience is also reasonable. And this he makes still clearer by distinguishing between the two kinds of objects of thought to which reason may apply itself. These are either abstract and immaterial or concrete and material. In the former case this correspondence between our thought and the thought of things is of course complete: "in the case of immaterial conceptions the subject and the object of thought are identical" (*ἐπὶ τῶν ἀνευ ὕλης τὸ αὐτὸ ἐστὶ τὸ νοοῦν καὶ τὸ νοούμενον*). But in material objects this correspondence is of course not so directly present. How then do they come to be objects of thought—how in fact are they known? The answer is that, though not explicitly rational, they are still so implicitly—that is, they presuppose a basis of thought—so that even in dealing with material objects our thought is simply refinding itself in the world.

Thus far then Aristotle's position would seem to be that thought and knowledge presuppose a universe already thought as an intelligible world. But the question now arises—What is this object of thought? How do we get to something intelligible? Reason, we may grant, is the faculty of receiving and applying ideas, of acquiring a knowledge of the general character of things, of filling up the as yet unwritten book of our experience. But there is a problem to be solved before this work of reason is possible: we must have secured our object of thought, our intelligible world, our matter on which thought is to operate—we must have found the instrument by which thought can exercise its actual functions. To do so we must advance a step farther than Aristotle's analysis has yet carried us. We must see that reason does not only receive ideas and in the course of its experience

gradually give them reality: it must first of all create or make these ideas, it must construct an intelligible world, an object of thought in which and with which it may operate: it must determine and constitute the very subject-matter of its action. And if we follow the few words in which Aristotle has unfolded his theory of a creative Reason we shall perhaps find that something like this was the nature of the intellectual act which Aristotle intended to represent.

The mind of man, says Aristotle, must contain the same differences as metaphysical analysis finds inherent in existence as a whole. Just as any class of things of which being can be predicated may be analyzed into a *matter* which is potentially all the class, and a causal or formative element which acts on this matter as art does on the materials given to it: so in mind we must distinguish between two forms or aspects of the reason standing in this relation to one another¹. On the one hand reason *becomes* all things: on the other hand it *makes* all things—makes them in the same sense in which light creates the objects of vision². In saying that reason ‘becomes’ all things Aristotle must mean that reason is able to apply itself to the whole domain of experience: that it can bring everything under the forms of rational knowledge. But reason does not only ‘become’ all things: it also *makes* all things. That is to say, it creates an intelligible world in the only sense in which experience can be acquired. And the illustration of the sunlight helps to make Aristotle’s meaning still more clear. For just—the metaphor would seem to mean—just as the sun communicates to things that light without which colour would be invisible and sight would have no object: so in the same manner this creative reason communicates to things those

¹ III. 5, ἐπεὶ δ’ ὥσπερ ἐν ἀπάσῃ τῇ φύσει ἐστὶ τι τὸ μὲν ὕλη ἐκάστῳ γέγει (τοῦτο δὲ ὁ πάντα δυνάμει ἐκεῖνα) ἕτερον δὲ τὸ αἰτιὸν καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἡ τέχνη πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν ταύτας τὰς διαφοράς.

² 430^b 4, καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἔξισ τις, οἷον τὸ φῶς· τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργεῖα χρώματα.

ideas, categories, or whatever we may call them, by which they become objects on which thought as a receptive passive faculty may operate. Now, Aristotle goes on, such reason—reason which by giving thought to things bestows upon them real existence—is clearly independent of the body¹: because, we may venture to add, this body itself is only an object of thought, an intelligible thing, in virtue of this very act of creative reason, which accordingly cannot itself depend upon the body. Such thought again is like actual knowledge—it is identical with its object²—*i.e.* the work of thought in dealing with these ideas which thus constitute existence is scarcely different from existence itself—the thinking of the world is in fact the creation of the world and the world as thought. Still the knowledge of these fundamental categories of existence is not something present to everyday consciousness: it is only by a later effort of analysis that they are grasped at all. Long before the individual has come to know these ultimate ideas he has unconsciously to himself applied them in building up his own experience: it may be that he never consciously recognises the existence of such ideas at all. But this thinking of the world is never really in abeyance: and if we leave the individual and consider the subject in the absolute we shall see that this potential thought is not really prior even in time to creative reason³. This reason in fact is always implicitly present in the world: it does not think at one time, and rest from thinking at another⁴; that is, if we may again supplement Aristotle, our categories of thought are ever active in the world, because, however unconscious we may be of them, it requires only an effort of introspection to discover them as necessary ingredients of our experience. But if so, this thought

¹ καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀμικτός καὶ ἀπαθής, τῇ οὐσίᾳ ὧν ἐνεργεῖα· ἀεὶ γὰρ τιμιώτερον τὸ ποιῶν τοῦ πάσχοντος καὶ ἡ ἀρχὴ τῆς ὕλης.

² τὸ δ' αὐτὸ ἐστὶν ἡ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι, cp. c. 4, 430^a3, ἐπὶ τῶν ἀνεν ὕλης τὸ αὐτὸ ἐστὶ τὸ νοοῦν καὶ τὸ νοούμενον.

³ ἡ δὲ κατὰ δύναμιν χρόνῳ προτέρα ἐν τῷ ἐνί, ὅλως δὲ οὐδὲ χρόνῳ.

⁴ ἀλλ' οὐχ ὅτε μὲν νοεῖ ὅτε δ' οὐ νοεῖ.

is really eternal and immortal¹: an intelligible universe, that is, has always involved these very forms which to this day are found by mental analysis to be the factors which explain our knowledge of the universe. Yet the employment of them does not convey this sense of everlastingness along with it—Plato's 'reminiscence' of a previous state of being in which the mind has been face to face with truth is a fiction of his own—because our reason dealing with fundamental ideas of this character is unaffected by its objects and employs them for the greater part of its existence in unconsciousness². It is just here however—in this persistency of thought constituting throughout time the universe—that the sense of 'life continuous, being unimpaired' must be looked for. The receptive intellect which merely thinks a world that has been rendered intelligible cannot lay claim to any such preeminence. Its work is restricted to the lifetime of the man who uses it: it depends upon the different communications of sense and the various reports of memory which enable it to apprehend the outward world, and it may thus be said to perish with the dissolution of the body. Besides it has none of the independent footing which creative reason may be said to have: it is throughout dependent on it for its action: because indeed without the faculty which constitutes an intellectual world the thinking and cognition of the world would be a positive impossibility.

The stumblingblock which has prevented students from understanding Aristotle's position lies perhaps chiefly in separating the fourth and fifth chapters of the third book from each other as if Aristotle were speaking of one reason in the one chapter, of another reason in the other. The real point to be remembered is that the problem which Aristotle is seeking to solve in the latter half of the fourth chapter is, How does reason think the world? How does the immaterial—thought—come to receive the material—things? The answer is that this is possible only

¹ χωρισθεις δ' ἐστὶ μόνον τοῦθ' ὅπερ ἐστὶ, καὶ τοῦτο μόνον ἀθάνατον καὶ αἰδῖον.

² οὐ μνημονεύομεν δέ, ὅτι τοῦτο μὲν ἀπαθές, ὃ δὲ παθητικὸς νοῦς φθαρτός, καὶ ἀνευ τούτου (i.e. τοῦ ποιητικοῦ) οὐθὲν νοεῖ (i.e. ὁ παθητικός).

in virtue of a *community* between thought and things. And this *κοινόν* is more definitely the creative reason which being at once in our minds and immanent in the world bridges the gulf between external objects and the receptive intellect.

This explanation of Aristotle's theory of a creative reason may be thought an instance of that tendency to modernize an ancient problem which no one would generally deprecate more than the present writer. But it may be said at least that in the fragmentary state in which Aristotle has left his theory, no course is open to a student unless he be prepared to supplement to some degree the scattered thoughts which the original Greek presents. And the interpretation which has just been given may be allowed to comprehend and also in a way to shew the truth contained in many of the different explanations which Aristotelian commentators have given of this creative reason.

The divergencies of view respecting Aristotle's meaning on this subject go back to an early period in the history of Aristotelianism. The idealist and transcendental interpretation meets us already in Eudemus: the more natural and empirical in Theophrastus. But it is with Alexander of Aphrodisias that we first find a decidedly theistic and supernatural rendering of the creative reason. Alexander regarded it, it would appear, as a purely spiritual agency acting as the fundamental basis of phenomena and transmitting its influence to man's nature from outside¹. This supernatural interpretation on the part of Alexander exercised no inconsiderable influence on the Arabian philosophers in mediaeval Europe. To Avicenna it is the passive intellect alone which has a place in the human soul; and the creative intellect becomes transmuted into a series of pure spirits, a cycle of intelligences, of which the higher shed their light upon the lower until they reach the *intellectus agens* as the spiritual agency which lies nearest to man. Emanation thus comes in to explain the action of this active or creative intellect: the intelligible forms stream into our souls, just as on the other hand the substantial

¹ For a fuller account of the ancient interpretations, with references, see the notes to iii. 5.

forms descend upon corporeal matter : and each act of knowledge means a fresh descent of the intelligible forms from the creative reason upon our natural understanding. A more sober interpretation is that given by Averroes. To him the passive intellect is merely the sensitive capacity by which we can distinguish and compare our separate sensations. But true intellectual cognition only arises when the passive and the active intellect are brought into combination : this active intellect being the faculty which gives actual intelligibility to the merely potentially intelligible phantasms or pictures of imagination. But this cognitive process in which the *intellectus agens* gives meaning to the *intellectus passivus* is still in every mind essentially the same phenomenon : "all who were are and shall be acquire their intellectual knowledge by one and the same cognitive act." A much less metaphysical account is given by Thomas Aquinas : the creative intellect becomes little more in his hands than a faculty for *abstracting* general forms from concrete individuals. Both the passive and the active intellect are according to Thomas parts or aspects of the human soul : but while on the level of the passive intellect the mind is a mere possibility for receiving forms, the active intellect *enlightens* and illumines the phantasms, which are in themselves individual, and abstracts the intelligible species from them¹.

Modern exponents of Aristotelianism have been as little harmonious in explaining Aristotle's doctrine. Trendelenburg, for instance, regards the passive reason as a single expression to denote all the lower cognitive powers of man²: and though unable to view the active intellect as one with the divine mind, he yet sees in it, as the source of first principles, something of a divine nature. Zeller takes a similar view of the *νοῦς παθητικός* : the passive reason is "the whole of the presentative

¹ Condensed from the fuller account given by Brentano of the different interpretations of Aristotle's conception.

² Omnes illas quae praecedunt facultates in unum quasi nodum collectas quatenus ad res cogitandas postulantur *νοῦν παθητικόν* dictas esse judicamus. Trend. *Comment.* p. 405.

faculties which go beyond sensuous perception and imagination without yet reaching the highest stage of thought": the creative reason being itself apparently just this highest stage of intellectual development. Renan returns rather to the position of Alexander and the Arabians. The creative reason is, he thinks, analogous to Malebranche's theory of seeing things in God. Borrowed perhaps from Anaxagoras it is in decided conflict with many other assertions of the Stagyrte: but it is but lost labour to try to reconcile what Aristotle himself left unsolved. And lastly, Brentano interprets the passive reason as equivalent to the imaginative or representative powers and regards the creative intellect as the spiritual faculty which operates *before* all thought, and therefore operates unconsciously—a faculty which once it is applied to our sensitive capacity gives it the necessary impulse for acting on our spiritual nature, and so becomes the efficient cause of our thought. It is in fact "the light which illuminating the images of sense makes the intelligible, within the sensible, knowable to the eye of our mind¹."

The scattered truths exhibited by these divergent theories would seem more or less comprised in the explanation which has been already suggested. The creative intellect is clearly, to begin with, not the intelligence of God as such: it is, Aristotle expressly tells us, 'in the soul' of man that the distinction which he draws is found: and whatever account we give of it must harmonize with this one fact. But if this creative thought be the act of mind which for each one of us translates a world of phenomena into a world of real objects, which renders what is merely sensuous capable of forming parts in a rational experience, if it be the very condition of discursive thought because without it our intellectual powers would have no object on which to operate—it follows that it is a process which is confined to no one individual, but which every man goes through consciously or unconsciously. It represents the very act which called the world, as a thing which could be known, into existence: it takes

¹ Brentano, *Psychologie des Aris.*, p. 180.

us back to the time when man first *thought* the universe: and it thus easily approximates to that universal thought or λόγος which "was in the beginning"—as the *a priori* condition of a rational experience—and which was also God himself¹.

What then, let us ask, is the general significance or import of Aristotle's theory of a creative reason, and how does it stand to his general psychology and metaphysic? The answer to the question is twofold. It overcomes on the one hand the antithesis between body and soul; it explains on the other hand the parts played by sense and thought respectively in knowledge. So long as soul was merely the entelechy of the body, the explanation of their unity and co-operation was but half completed; and it was difficult to understand how merely material phenomena became cognitive and intellectual conditions. But with the consideration that it is only through an act of thought that body can be known at all, that body is body only in so far as it is interpreted by intellect, the antithesis which the definition of the soul had only partially removed is brought finally to unity. And though we need not assert that Aristotle himself gave this application to his theory, it cannot be far wrong in us to draw the conclusions which his theory would seem to warrant.

Still greater is the importance of this theory of Reason in its bearings on Aristotle's account of the beginnings and development of knowledge. Most students are acquainted with the popular summary of Aristotle's doctrine—*nihil est in intellectu quod non prius fuerit in sensu*. And it is a comparatively easy task to collect a number of passages in which Aristotle would seem to make sense the source of all our knowledge, the source even of our ultimate principles of thought. The last chapter of the Posterior Analytics would be especially quoted in support of such an account of Aristotle's *Erkenntnisslehre* or Epistemology: and there is no doubt but the passage if it stood alone would make the writer a mere empirical sensationalist. For the point

¹ Teichmüller develops the comparison farther, *Studien zur Geschichte d. Begriffe* (1874), p. 399.

insisted on by Aristotle is just that our primary ideas, our general notions, our cognitive faculties, are not ready-made and determined faculties—*ἀφωρισμένοι ἔξεις*—they start from no higher source of knowledge than sense-perception¹. And the chapters explain how the ‘inborn discriminating faculty’ of sense is followed by a continuance of the sensation in memory—how a number of memories go to form one experience (*ἐμπειρία*)—and how from experience or from “every universal which has settled down as a one beside the many” comes the origin of art and science. Nor does the chapter leave us in any uncertainty as to how these universals are to be formed. A right use of generalization and abstraction clears up all the difficulty. Amid the flux of sensitive impressions, the writer explains, some one or other becomes fixed as an object of conscious observation: and once so fixed it becomes a centre round which other impressions may gradually group themselves, just as the soldier who stays the flight of his defeated comrades becomes a rallying-point from which they may again recover order². It is easy to see how the process will go on. Round this particular impression a number of like sensations group themselves—a class of lower generality is so formed—and the process goes on with ever-widening circles until general ideas of the greatest scope are ultimately reached³.

Generalization or Induction—the process of advancing from particular instances to general laws—seems thus the agency by which we must explain the origin of general ideas⁴. And since this induction itself is primarily dependent on sense-perception—since in fact apart from sense-perception induction cannot

¹ *Post. Anal.* II. 19, 100^a10, οὕτε δὴ ἐνυπάρχουσιν ἀφωρισμένοι αἱ ἔξεις, οὐτ’ ἀπ’ ἄλλων ἔξεων γίνονται γνωστικωτέρων ἀλλ’ ἀπ’ αἰσθήσεως.

² *Ibid.*, οἷον ἐν μάχῃ τροπῆς γενομένης ἐνὸς στάντος ἕτερος ἔστη, εἰθ’ ἕτερος ἕως ἐπὶ ἀρχὴν ἦλθεν, ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὕσα οἷα δύνασθαι πάσχειν τοῦτο.

³ στάντος γὰρ τῶν ἀδιαφόρων ἐνός, πρῶτον μὲν ἐν τῇ ψυχῇ καθόλου, πάλιν ἐν τούτοις ἴσταται ἕως ἂν τὰ ἀμερῇ στή καὶ τὰ καθόλου οἷον τοιονδὶ ζῶον ἕως ζῶον· καὶ ἐν τούτῳ ὡσαύτως.

⁴ δῆλον δὴ ὅτι ἡμῖν τὰ πρῶτα ἐπαγωγῇ γνωρίζει ἀναγκαῖον· καὶ γὰρ καὶ αἰσθησις οὕτω τὸ καθόλου ἐμποιεῖ.

operate at all—it seems to follow that sense is in the last resort the origin of our ideas and our knowledge¹. But alongside of this emphatic assertion of the value of sense in generating knowledge and ideas, comes the ascription of the knowledge of the *ἀρχαί* or first principles of our experience to reason. We find them so accounted for in the Posterior Analytics² and in the sixth book of the Ethics. While one chapter asserts that as syllogism cannot itself supply the principles on which demonstration rests induction must discover them, another chapter maintains that as neither science nor opinion can supply the principles of science, reason itself must be their source³.

The contradiction which is here apparent and which is in accordance with Aristotle's general attitude upon the subject can only be solved, if it be explicable at all, by a true understanding of his creative reason. It seems no doubt at first sight absurd that one and the same writer should assign the origin of our ideas, the first beginnings of our knowledge, at one time to sense, at another time to reason. But we have gone a long way towards reconciling his conflicting statements when we understand that a creative reason as the thought which *makes* things, which constructs an intelligible world, is the necessary presupposition of sense-perception itself. Nor do other passages which might be brought forward in support of Aristotle's sensationalism really conflict with this interpretation. No doubt Aristotle says it is impossible to exercise thought without the help of a sensuous image—*νοεῖν οὐκ ἔστιν ἄνευ φαντάσματος*—and the passage might be taken to mean that thought itself presupposes a constant sensuous accompaniment as the

¹ *Post. Anal.* I. 13, 81^b5, ἐπαχθῆναι δὲ μὴ ἔχοντας αἰσθησιν ἀδύνατον· τῶν γὰρ καθ' ἑκαστον ἡ αἰσθησις.

² 100^b5, ἐπεὶ δὲ τῶν περὶ τὴν διάνοιαν ἔξεων αἷς ἀληθεύομεν αἱ μὲν αἰεὶ ἀληθεῖς εἰσιν, αἱ δὲ ἐπιδέχονται τὸ ψεῦδος, οἷον δόξα καὶ λογισμός, ἀληθὴ δ' αἰεὶ ἐπιστήμη καὶ νοῦς καὶ οὐδὲν ἐπιστήμης ἀκριβέστερον ἄλλο γένος ἢ νοῦς, αἱ δ' ἀρχαὶ τῶν ἀποδείξεων γνωριμώτεραι, ἐπιστήμη δ' ἅπαντα μετὰ λόγον ἐστὶ, τῶν ἀρχῶν ἐπιστήμη μὲν οὐκ ἂν εἴη· ἐπεὶ δ' οὐδὲν ἀληθέστερον ἐνδέχεται εἶναι ἐπιστήμης ἢ νοῦν, νοῦς ἂν εἴη τῶν ἀρχῶν.

³ *Eth. Nic.* VI. 3, 1139, εἰσὶν ἄρα ἀρχαὶ ἐξ ὧν ὁ συλλογισμὸς ὧν οὐκ ἔστι συλλογισμός· ἐπαγωγὴ ἄρα. VI. 6, 1141^a7, λείπεται νοῦν εἶναι τῶν ἀρχῶν.

symbol of its action¹. But there is no contradiction in holding on the one hand that thought requires for its exercise an object suggested by sense and maintaining on the other hand that thought requires to illuminate this object in order that it may think it. The two points of view, in fact, refer to different aspects or stages of the work of knowledge. When Aristotle says that it is thought which gives thought its object, he is referring to the primary and fundamental act by which a conscious mind interprets the universe; when he says that thought finds its object in the images of sense and cannot operate without them, he is referring to the elaboration in discursive thought of the materials so determined by thought. Nor does this merely mean that Aristotle gave a subjective expression to an objective fact—that he regarded the forms of things as impressing themselves *by their own action* on the reason: or that he wishes us to believe that “it is only in our consciousness that the eternal ideas of transient phenomena become conscious of themselves:” so that “the creative *Nous* means simply the forms of things acting through the imagination on the possibilities of subjective conception².” For Aristotle says, not that things make thought, but that thought makes things: and though he never loses sight of the correspondence between the two sides of the relation, so that our thought is merely as it were finding *itself* in things, he is none the less aware that it is thought which stands first in the universe. No doubt it is within the phenomena of sense that the forms of reason are to be discovered—ἐν τοῖς εἶδεσι τοῖς αἰσθητοῖς τὰ νοητά ἐστὶ³—but this merely emphasizes the fact that it is because phenomena are *thought* that they are intelligible to

¹ *De Mem.* I. 449^a30, νοεῖν οὐκ ἔστιν ἀνευ φαντάσματος· συμβαίνει γὰρ τὸ αὐτὸ πάθος ἐν τῷ νοεῖν ὅπερ καὶ ἐν τῷ διαγράφεω· ἐκεῖ τε γὰρ οὐθὲν προσχρῶμεται τῷ τὸ ποσὸν ὠρισμένον εἶναι τὸ τριγώνον, ὅμως γράφομεν ὠρισμένον κατὰ τὸ ποσόν· καὶ ὁ νοῶν ὥσαύτως, κἂν μὴ ποσὸν νοῇ, τίθεται πρὸ ὁμμάτων ποσόν, νοεῖ δ' οὐχ ἢ ποσόν. *Cp. De An.* III. 7, 431^a17, III. 8, 432^a8.

² *Westminster Review* for October, 1881.

³ III. 8, 432^a10.

sense; that it is in applying themselves to and being embodied in our sensuous experience that the ideas of reason gain their true import. And though the forms of reason are thus contained within the vehicle of sense, it is still reason which is the cause and origin of them in things: for the reason is just the constitutive form which itself determines and applies the forms and categories of existence just as the hand is the instrument of instruments, the instrument which makes and uses other instruments¹.

What thus holds good of the origin of our ideas generally applies also in no less degree to the origin of our ethical conceptions. They also are the growth of experience illuminated by the energy of reason. Ethics indeed must be studied by constant reference to personal experience: it is the particular fact which must form the starting-point of the moralist: and it is just by gradual experience, constant habituation (*ἐθισμός*) that the *ἀρχαί* of conduct must be realized². For these principles are just the motives for which our acts are due: they embody themselves in our highest ideals of what is just and true: and as it is vice which destroys such principles so it is the experience of a moral life which forms and preserves them³. They constitute the major premiss of the practical syllogism by which our conduct is determined: and the universal here as elsewhere is the product of the inductive process by which individuals combine to form a universal truth⁴. But this is only half of Aristotle's analysis. It remains further to be added that these particulars which thus go to make up the universal, require to be fixed and interpreted by reason: and if we give the name of *αἰσθησις* to this apprehension of the individual, we must remember that it is also at the same time

¹ 432^a1, ἡ χεὶρ ὄργανόν ἐστιν ὀργάνων καὶ ὁ νοῦς εἶδος εἰδῶν.

² *Eth. Nic.* I. 4, 6: I. 7, 21.

³ *Eth. Nic.* VI. 5, 1140^b16, αἱ μὲν γὰρ ἀρχαὶ τῶν πρακτῶν τὸ οὐ ἕνεκα τὰ πρακτά: τῷ δὲ διεφθαρμένῳ δι' ἡδονὴν ἢ λύπην εὐθὺς οὐ φαίνεται ἡ ἀρχή...ἐστι γὰρ ἡ κακία φθαρτικὴ ἀρχή.

⁴ VI. II, 4, 1143^b4; VI. 12, 10, 1144^a31.

an act of reason¹. The recognition, in short, of the principles of morals is an instantaneous immediate act which resembles the direct apprehension of the senses, but it is an act not like the perception of the special senses but rather like the mathematical sense which combines a number of isolated points into a particular geometric figure².

Reason then, it now only remains to add, is essentially what constitutes the individual³. It is no longer dependent on bodily conditions like the other cognitive and emotional elements in our nature: it is something of a transcendental character: something which brings us into connection with God himself⁴. And thus we cannot enquire about the time when reason came into existence: as an actualized state, something which does not *become* ἐνέργεια but is essentially itself developed, it never began to exist—rather it is coeval with the world⁵. It is only in its personal application to experience that we can apply categories of before and after to it: in itself as eternal and unceasing it is outside all relations of time.

With such thoughts we pass beyond the distinction between a creative and a passive reason. For the two it must be remembered are not "two reasons:": they are merely different *modes* of viewing the work of reason: and the passive discursive reason which *becomes* everything and applies itself to the varying phenomena of experience is capable of such action only in so far as its object is determined for it by creative reason. And it is therefore unnecessary for Aristotle to specialize the reason of which he says that it is introduced 'from

¹ VI. II, 1143^b5, ἐκ τῶν καθ' ἕκαστα τὸ καθόλου· τούτων οὖν ἔχειν δεῖ αἰσθῆσιν, αὐτῇ δ' ἐστὶ νοῦς.

² *Eth. Nic.* VI. 8, 1142^a26, ἀντίκειται μὲν δὴ (φρόνησις) τῷ νῷ· ὁ μὲν γὰρ νοῦς τῶν ὄρων ὧν οὐκ ἔστι λόγος, ἡ δὲ (φρόνησις) τοῦ ἐσχάτου, οὐ οὐκ ἔστιν ἐπιστήμη ἀλλ' αἰσθησις, οὐχ ἡ τῶν ἰδίων, ἀλλ' οἷα αἰσθάνομεθα ὅτι τὸ ἐν τοῖς μαθηματικοῖς ἐσχατον τρίγωνον.

³ X. 8, 1178^a2: δόξειε δ' ἂν καὶ εἶναι ἕκαστος τούτο, εἴπερ τὸ κύριον καὶ ἄμεινον.

⁴ *Eth.* X. 7, 1, 1177^a16, εἴτε θεῖον ὄν καὶ αὐτὸ εἴτε τῶν ἐν ἡμῖν τὸ θεϊώτατον.

⁵ *Metaph.* H. 5, 1044^b22, ἐπεὶ δ' ἐνία ἄνευ γενέσεως καὶ φθορᾶς ἔστι καὶ οὐκ ἔστιν οἷον αἱ στιγμαί, εἴπερ εἰσὶ, καὶ ὅλως τὰ εἶδη καὶ αἱ μορφαί (οὐ γὰρ τὸ λευκὸν γίγνεται ἀλλὰ τὸ ξύλον λευκόν). Cp. Teichmüller, p. 387.

without:’ that it does not result from mere physical generation in the way that the faculties for sustaining life—the *ψυχὴ θρεπτική*—may be said to do¹. No doubt as so introduced into the mind this creative reason is only a *δύναμις*: but the first key to understanding Aristotle is to know that *δύναμις* and *ἐνέργεια* are relative terms: and that what is an *ἐνέργεια* from one aspect may be a *δύναμις* from another. And thus Aristotle may perfectly well say that the different forms of soul must exist in man potentially before they do so in actuality² and yet hold that it is in potential form that reason as an actual or rather an actualizing faculty is present originally in man. Such a view at least is perfectly consistent with the view of reason as a creative faculty which has been here set forth. For the creative reason is just, we have seen, the source of those general forms or categories by which a world of sense becomes a world for intellect. But of course such categories are, to start with, only implicit in experience, they are mere potential forms which *can* be applied to experience: and the *γραμματεῖον* of the human mind is at first destitute of anything but the forms themselves which, as they first exist in the mind, are indeed potentially all things—able to explain and interpret all the sensations which things can convey—but actually nothing; devoid of any particular content until experience provide them with it.

XII. THE WILL AND PRACTICAL REASON.

The analysis of man as a cognitive and intellectual being is followed immediately in Aristotle by the account of him as an active and conative being: and the theory of knowing determines directly his theory of acting. It might have been expected that

¹ *De Gen. An.* II. 3, 736^b27, λέπεται δὲ τὸν νοῦν μόνον θύραθεν ἐπεισεῖναι καὶ θεῖον εἶναι μόνον· οὐθὲν γὰρ αὐτοῦ τῇ ἐνέργειᾳ κοινωνεῖ σωματικὴ ἐνέργεια.

² *Ibid.* 736^b15.

an intermediate stage would have been discussed, and that before proceeding to analyze man as an active being he would have treated him as emotional. But neither in the *Psychology* nor in the *Ethics* does Aristotle give us any account of the feelings as such. It is the powers and faculties not the susceptibilities of man with which he is occupied: and among such *δυνάμεις* no place is left for the *πάθη* or emotions. At the beginning indeed of the treatise, these feelings had excited considerable interest in Aristotle: their semi-bodily character had seemed to him to suggest some of the most difficult questions which he would have to discuss. The feelings he saw were always materialized notions (*λόγοι ἔνυλοι*) and could only be described correctly when explained not merely from the standpoint of the physicist or physiologist, but also from that of the dialectician or metaphysician. But the conception of soul as a first entelechy or perfect realization left, it would seem, no opportunity for treating of the feelings. Man is an emotional being simply in so far as he is a sensitive or perceptive being¹: and there is no definite phase of life which we can speak of as having a pathetic or emotional soul.

It is to the *Rhetoric* and *Ethics* that we must go if we would find out what little Aristotle has said on the subject of the feelings. Even in these treatises what we find is not any systematic exposition of the feelings but simply a description of some aspects of them. What we have in the *Rhetoric* is a popular delineation of some of the more obvious feelings to which we are subject: the *Ethics* gives us an analysis of the universal concomitants of all feelings. These concomitants are pleasure and pain: feelings in fact are just the states which are followed by pleasure and pain². And of pleasure and pain Plato had given a more than usually exhaustive account. Pleasure, he had explained, arose from the *πλήρωσις*, the filling up and satis-

¹ II. 2, 413^b23, ὅπου μὲν γὰρ αἰσθησις, καὶ λύπη τε καὶ ἡδονή, ὅπου δὲ ταῦτα, ἐξ ἀνάγκης καὶ ἐπιθυμία.

² *Eth. Nic.* II. 4, 1105^b21, λέγω δὲ πάθη μὲν ἐπιθυμίαν, ὀργήν, φόβον, θράσος, φθόνον, χαρὴν, φιλίαν, μῖσος, πόθον, ζῆλον, ἔλεον, ὅλως οἷς ἐπεταὶ ἡδονὴ ἢ λύπη.

faction of a preceding state of deficiency; pain on the other hand was just the sense of want and deficiency, *ἔνδεια*. And though the explanation was suggested by and referred directly to the bodily pleasures it was still held by its author to apply also to the higher pleasures as similarly the answer to a sense of want which was waiting to be replenished by intellectual nourishment. Pleasure accordingly was always a *γένεσις*, a process towards the normal condition of a subject, and therefore as such never in itself an end. And the theory had consequently received a moral application as shewing, by the absence of finality from pleasure, that pleasure, taken by itself, could not be the end of life. It is similarly from a moral point of view that Aristotle analyses pleasure; and his immediate object is to shew that the argument which maintains that pleasure cannot be the *summum bonum*, because of its being a mere process towards an end, is unsatisfactory. Rather, he maintains, pleasure is an *ἐνέργεια*: it arises from the free play, the unimpeded, unthwarted operation of our faculties: it results from the contact of a perfectly acting organ with an appropriate object just as pain is on the contrary the result of thwarted constrained action on the part of either a sensitive or intellectual faculty¹.

Of such pleasure and pain the importance in the economy of man's nature is that it is just through them that man passes from the state of a merely cognitive and intellectual and begins to be a moral and active being: "it is when the sense perceives something as pleasant or painful that the mind affirms or denies it—that it pursues it or avoids it²." Aristotle in fact is fond

¹ *Eth. Nic.* VII. 12, 1153^a13, διὸ καὶ οὐ καλῶς ἔχει τὸ αἰσθητὴν γενέσιν φάναι εἶναι τὴν ἡδονήν, ἀλλὰ μᾶλλον λεκτέον ἐνέργειαν τῆς κατὰ φύσιν ἕξεως, ἀντὶ δὲ τοῦ αἰσθητὴν ἀνεμπόδιστον. Cp. *Eth. Nic.* X. 4, 1174^b20: κατὰ πᾶσαν αἰσθησίαν ἔστιν ἡδονή, ὁμοίως δὲ καὶ διάνοιαν καὶ θεωρίαν, ἡδίστη δ' ἡ τελειοτάτη, τελειοτάτη δ' ἡ τοῦ εὖ ἔχοντος πρὸς τὸ σπουδαιότατον τῶν ὑφ' αὐτῇ. The *Rhetoric* contents itself with the popular theory criticised in the *Ethics*, v. *Rhet.* I. 11, 1369^b33: ὑποκείμεθα δ' ἡμῖν εἶναι τὴν ἡδονὴν κίνησιν τινα τῆς ψυχῆς καὶ καταστάσιν ἀθρόαν καὶ αἰσθητὴν εἰς τὴν ὑπάρχουσαν φύσιν, λύπην δὲ τοῦναντιον.

² III. 7, 2, 431^a8, τὸ μὲν οὖν αἰσθάνεσθαι ὅμοιον τῷ φάναι μόνον καὶ νοεῖν ὅταν δὲ ἡδὴ ἢ λυπηρόν, οἷον καταφάσκα ἢ ἀποφάσκα διώκει ἢ φεύγει.

of pointing out the correspondence between the practical and the speculative side of human nature. What is in the speculative intellectual sphere truth and error, is in the moral and practical good and evil: what is in the one affirmation and negation is in the other pursuit and avoidance¹. Pleasure and pain in fact form distinctively the field of Ethics: and the especial weakness in Socrates' intellectual apprehension of Ethics is just the fact that he left no room for the effect of the *πάθη* in influencing conduct².

But while our feelings of pleasure and pain are thus the phenomena on which our moral and active life reposes, they do not enter into our life as mere feelings, as mere natural tendencies or unformed susceptibilities. The same constructive work, as intellectually translates a mere sensitive impression into a real object of cognition, displays itself also in building up the motives which ultimately constitute our wills, and the practical reason is shortly nothing but the intellectual reason applied to explain and create action. The sensuous images of *φαντασία* which suggest our action are really little else than mere sensations; it is only when the mind proceeds to view them as good or evil that it pursues or avoids them³. Thus the sensitive or emotional capacities of our nature are but the material substratum, the *ἕλη* of our moral experience. To construct a moral world we must *translate* the sensitive into the rational, the phenomenal into the real, just as we require to do in order to build up an intelligible world; we must think the materials which sense supplies and discover in them the general forms or ideal truths which underlie them⁴. And though the practical reason never carries on its work without the help of images of sense, these images themselves are no

¹ *Eth.* VI. 2, 1139^a21, ἔστι δ' ὅπερ ἐν διανοίᾳ κατάφασις καὶ ἀπόφασις, τοῦτ' ἐν ὁρέξει δῶξις καὶ φυγή.

² *Mag. Mor.* 1182^a22, συμβάλει οὖν αὐτῷ ἐπιστήμας ποιῶντι τὰς ἀρετὰς ἀναιρεῖν τὸ ἄλογον μέρος τῆς ψυχῆς, τοῦτο δὲ ποιῶν ἀναιρεῖ καὶ πάθος καὶ ἦθος.

³ III. 7, 431^a14, τῇ δὲ διανοητικῇ ψυχῇ τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει· ὅταν δὲ ἀγαθὸν ἢ κακὸν φήσῃ ἢ ἀποφύσῃ φεύγει ἢ διώκει.

⁴ 431^b2, τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ.

more the practical reason itself than the air which forms the medium and condition of eyesight constitutes the pupil¹.

The motive or conative aspect of the soul thus includes two main factors which require to act in unison in order that action may result. And thus a *δύναμις* like this conative power just shews the weakness of a system of mental faculties. One element which enters into it belongs to the sphere of the rational, another falls within the limits of the irrational². The real truth is that desire and reason must co-operate in order that a moral conclusion may be carried into effect: in the language of the *Ethics*, moral choice or *προαίρεσις* may be described as either *νοῦς ὀρεκτικὸς* reason stimulated by desire, or *ὄρεξις διανοητική* desire guided by understanding³.

This conception of the will, or (if the term be disapproved) the origin of moral decision is explained for us by what Aristotle tells us in the *Psychology* itself about the springs of action. The spring of action cannot, he there shews at length, be found either in mere animal processes of vegetation and nutrition which contain no conception of an end at which they aim, or in the faculties of sense which often exist without the concomitant of any tendency to spontaneous action, or even in the purely cognitive reason which is as such impotent to produce any effect upon the feelings or even to counteract their influence⁴. And here the *Ethics* itself comes in in turn to expand and interpret these remarks. The merely logical understanding, says the writer in the sixth book, never leads to action⁵. But if reason as reasoning be thus powerless to influence and shape the will, as little can mere animal appetite produce this end. For appetite is merely affected by what is pleasant and painful—and

¹ 431^a17, ὥσπερ ὁ ἀήρ τὴν κόρην τοιανδί ἐποίησεν, αὐτὴ δ' ἕτερον.

² III. 9, 432^b5.

³ *Eth. Nic.* VI. 2.

⁴ *De An.* III. 9, 432^b26, ἀλλὰ μὴν οὐδὲ τὸ λογιστικὸν καὶ ὁ καλούμενος νοῦς ἐστὶν ὁ κινῶν· ὁ μὲν γὰρ θεωρητικὸς οὐθὲν νοεῖ πρακτόν...ἀλλ' οὐδ' ὅταν θεωρῇ τι τοιοῦτον, ἥδη κελεύει φεύγειν ἢ διώκειν, οἷον πολλάκις διανοεῖται φοβερόν τι ἢ ἡδύ, οὐ κελεύει δὲ φοβεῖσθαι.

⁵ *Eth. Nic.* VI. 2, 1139^a35.

before pleasure and pain have come to be elements in moral action they must have been translated into good and evil¹. But to be so translated, the promptings of appetite must have been determined by an object and end which thought alone can contribute. The faculty of desire does not and cannot operate without the presentation of a mental image to consciousness (*ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας* 433^b28): it is only by being made an object of thought or by being presented by imagination before the mind that the object of desire comes to determine conduct (*τὸ ὀρεκτὸν κινεῖ οὐ κινούμενον τῷ νοηθῆναι ἢ φαντασθῆναι* 433^b12). And in the language of the exoteric psychology of the *Ethics*, it is only in so far as appetite is participant in reason (*λόγου μέτεχον*) that it provides a basis for the exercise of virtue.

What however neither reason alone nor desire alone can effect is produced by the two when acting in cooperation. But Aristotle as usual perplexes us by one of those provoking contradictions which seem at first at variance with the rest of his system. Not only, we are told, is it thought or reason acting with desire that can stimulate to action—imagination sometimes takes the place of thought². Yet the difficulty so caused is removed when we remember that Aristotle is speaking here of the forces which lead to action *generally*: he simply means that in the animal world as such the pictures of sense take the place of reason, and man, when he subsides into his purely animal nature, similarly follows the lead of his senses. But the difference is that the animal is restricted to these pictures of a purely sensuous experience and is unconscious of any higher ideal: man on the other hand cannot be merely

¹ *Eth. Nic.* III. 3, 1111^b17, ἡ μὲν ἐπιθυμία ἡδέος καὶ ἐπιλύπου, ἡ προαίρεσις δ' οὐτε λυπηροῦ οὐθ' ἡδέος.

² III. 10, 433^a9, φαίνεται δὲ γε δύο ταῦτα κινούντα, ἡ ὄρεξις ἡ νοῦς, εἴ τις τὴν φαντασίαν τιθεῖ ὡς νῆσιν τινα. Cp. *De Motu Animal.* 700^b17: ὁρῶμεν δὲ τὰ κινούντα τὸ ἔφρον διάνοιαν καὶ φαντασίαν καὶ προαίρεσιν καὶ βούλησιν καὶ ἐπιθυμίαν. ταῦτα δὲ πάντα ἀνάγεται εἰς νοῦν καὶ δρεξίν· καὶ γὰρ ἡ φαντασία καὶ ἡ αἰσθησις τὴν αὐτὴν τῷ νῷ χώραν ἔχουσιν.

an animal, and even in following the lead of sense is conscious of a superior faculty—a faculty which necessarily *thinks* the sensuous image and brings it into connection with his past experience¹. For deliberation, the weighing of different and divergent courses of conduct, is only possible on the assumption that we can measure the competing motives and form one conception out of several pictures of sensuous experience².

The doctrine of the practical syllogism illustrates still further Aristotle's conception of the relation of reason to desire in determining conduct. Action, according to such logical analysis, resolves itself into a universal major and a particular minor, out of which some action or other follows as conclusion. In such a syllogism, the major is of course the general moral imperative—the conception of some end or other as the thing it is desirable to do; the minor, on the other hand, applies this general conception of what is good to some particular person or some individual object³. According to one of the examples given in the *Ethics*, the major says everything sweet should be tasted, the minor this particular thing is sweet; and, if there be no antagonistic syllogism, the sweet thing in question must be tasted. But there is no disjunction between the elements which thus enter into our moral determinations. It is reason—practical reason—which has to do with the constitution both of the major and of the

¹ *Eth. Nic.* VII. 3, 1247^b3, διὰ τοῦτο τὰ θηρία οὐκ ἀκρατῇ ὅτι οὐκ ἔχει τῶν καθόλου ὑπόληψιν, ἀλλὰ τῶν καθ' ἕκαστα φαντασίαν καὶ μνήμην.

² III. 11, 434^a9, καὶ ἀνάγκη ἐνὶ μετρεῖν· τὸ μείζον γὰρ διωκει, ὥστε δύναται ἐν ἐκ πλείων φαντασμάτων ποιεῖν.

³ *De An.* III. 11, 434^a16, ἐπεὶ δ' ἡ μὲν καθόλου ὑπόληψις καὶ λόγος, ἡ δὲ τοῦ καθ' ἕκαστα (ἡ μὲν γὰρ λέγει ὅτι δεῖ τὸν τοιοῦτον τὸ τοιόνδε πράττειν ἡ δὲ ὅτι τόδε τὸ νῦν τοιόνδε, κἀγὼ δὲ τοίῳδε) ἤδη αὕτη κινεῖ ἡ δόξα, οὐχ ἡ καθόλου, ἡ ἀμφω ἀλλ' ἡ μὲν ἡρεμούσα μᾶλλον, ἡ δ' οὐ. Thus, it should be noticed, both the major and the minor premiss may have either an objective or a subjective reference. Cp. *Eth. Nic.* VII. 3, 6, 1147^a4, διαφέρει δὲ καὶ τὸ καθόλου. The practical syllogism is also explained VI. 12, 10, 1144^a31: VII. 3, 9, and *De Motu Animal.* 701^a32, ποτέον μοι, ἡ ἐπιθυμία λέγει· τοδὶ δὲ ποτὸν ἡ αἰσθησις εἶπεν ἡ ἡ φαντασία ἡ ὁ νοῦς. εὐθὺς πίνει. οὕτως μὲν οὖν ἐπὶ τὸ κινεῖσθαι καὶ πράττειν τὰ ζῶα ὁρμῶσι, τῆς μὲν ἐσχάτης αἰτίας τοῦ κινεῖσθαι ὁρέξεως οὕσης, ταύτης δὲ γινομένης ἡ δι' αἰσθήσεως ἡ διὰ φαντασίας καὶ νοήσεως. The way in which here ἐπιθυμία is made the source of a general imperative evidences the spurious character of the treatise.

minor premiss: it is an intuition of reason, acting as directly as the perceptive act, which interprets the particular instance, and which combines these instances into a universal law. Reason deals at once with the ultimates of universality and the ultimates of particularity; it is at once the beginning and the end of our moral reasoning¹. And thus there comes to be a real unity between reason and desire in determining conduct. The universal law of what is desirable and good is, in a sense, fixed and stationary, while the minor premiss—the particular application of this maxim—is subject to movement, and passes under the influence of desire from one universal to another: the particular proposition ‘this thing is sweet’ may attach itself either to the major—‘everything sweet should be tasted,’ or its contrary ‘nothing sweet should be tasted.’ But the actual moral act displays to us nothing of this difference. The stationary universal of reason and the particular direction of desire are merely different aspects of one and the same process—a process which Aristotle effectively compares to the action of a ball-and-socket joint (γγυγλυμός). In such a joint one part seems to be reaching forward, while another remains immovable in its position: (ἐλξίς) attraction and impulsion (ὥσις) combine to produce the action which results². But just as in such a case the distinction between the two sides of the movement is one only of aspect, so that we can hardly say where the joint ceases to attract and begins to propel, so similarly in moral active reason and desire, the stationary and the impulsive factors unite in one common aim determined by an ideal of reason.

Reason thus appears as the ultimate basis of our moral, just as we saw it was also of our intellectual, life. For the true object of consciousness in this union of desire and reason is not two objects—one of desire, another of reason—it is one

¹ *Eth. Nic.* VI. 11, 4, καὶ ὁ νοῦς τῶν ἐσχάτων ἐπ’ ἀμφοτέρα...διὰ καὶ ἀρχὴ καὶ τέλος νοῦς.

² *De An.* III. 10, 433^b21, τὸ κινεῖν ὀργανικῶς, ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτὸ οἶον ὁ γυγλυμός· ἐνταῦθα γὰρ τὸ κυρτόν καὶ τὸ κοῖλον τὸ μὲν τελευτὴ τὸ δ’ ἀρχὴ κ.τ.λ. Readers of Teichmüller’s highly suggestive volume (*Praktische Vernunft*) will see how much I am indebted to him in this interpretation. See p. 210.

single common force which finally becomes the principle of action¹. And when we ask how this object of our final wish is framed, the answer must be, that it is so through the agency of reason. Ultimately, and transcendently in fact, there is no difference between the object of thought and the object of wish; the *βουλευτὸν* and the *νοητὸν* are merely different aspects of one and the same great generality. Even in our own experience it is thought which determines desire: and the principle and starting-point of conduct turns out to be an exercise of reason². And when Aristotle proceeds to state more definitely what is this object of perfect wish which thus determines and regulates our natural desires, he becomes still more of an idealist. For while the object of wish to any individual is but the apparent and relative good, still to a perfect man it is the absolute ideal good: and the aim of life comes to be an attempt to make our practical views in life elevate themselves to the full height of the absolute ideal of goodness³. It would take us outside psychology to develop these views further here. But it shews us once more the correspondence between the cognitive and ethical philosophy of Aristotle. The same writer who reproduces Plato's idea of good as the constructive reason which gives both knowledge and reality to things, now finds the determining aim of conduct in an absolute ideal which constitutes the pattern to which morality must raise itself.

XIII. GENERAL ESTIMATE.

The unsatisfactory character of many of Aristotle's psychological results is probably apparent to most readers. In following his account of our mental processes we are brought face

¹ III. 10, 433^a21, ἐν δὲ τι τὸ κινεῖν τὸ δρεκτόν.

² *Metaph.* Λ. 7, 1072^a29, ὀρεγόμεθα δὲ διότι δοκεῖ μᾶλλον ἢ δοκεῖ διότι ὀρεγόμεθα. ἀρχὴ δὲ ἡ νόσις.

³ *Eth. Nic.* III. 4, 1113^a22, ἀρα φατέον ἀπλῶς μὲν καὶ κατ' ἀλήθειαν βουλευτὸν εἶναι τὰγαθόν, ἐκάστῳ δὲ τὸ φαινόμενον;

to face with the same defects as also with the same merits as meet us in his other works. There is the same picture of a thinker who is distracted between two solutions of a question, who indulges in what at first sight are the most palpable contradictions and who leaves us without any satisfactory solution of the difficulties which he raises. The result might have been different had Aristotle sought to develope instead of merely seeking to criticise the Platonic idealism, and while noting the imperfections of Plato's theory, tried to correct and complete those points in the spirit of Plato himself. He chose instead to put himself in opposition to the teaching of his master and preferred (speaking generally) to state his views in such a form as would bring them into sharpest antagonism to the Platonic doctrines. Meanwhile however the mantle of the master had descended even on the pupil who set himself to oppose his teaching: and the Aristotelian Anti-Platonism became itself a phase of Platonism. But this fact is constantly obscured by the phraseology in which Aristotle is led to state his results. And thus the unity by which Aristotle really tries to reconcile matter and form, individual and universal, the world and God, sense and reason, the material and the spiritual, is one which we must discover for ourselves rather than expect to find in Aristotle himself.

This unifying link between complementary or antagonistic conceptions is what a modern reader will assuredly most desiderate in Aristotle. Aristotle himself no doubt sees clearly enough the defects of the Platonic Psychology with its doctrine of locally separated faculties. But what inner unity is there in Aristotle's own theory? How does body become soul, how does a merely material organization become a spiritual agency, is a question which Aristotle only very partially solves by his view of soul as the truth or reality of body. And when we examine the different faculties of the soul, a like want of unity in the soul itself strikes us. No hint is given of a continuous development of one faculty from the other.

The perceptive powers presuppose the vegetative, the rational presuppose the perceptive and imaginative: but how the one leads to the other is a question on which Aristotle tells us little. And how—a defect which Zeller has especially emphasized—how does this congeries of faculties resolve itself into a personal self, an individual me? We need perhaps hardly be astonished that Aristotle does not directly answer this question. Ideas develop themselves but slowly in the history of thought: and the conception of a personal, isolated and yet universal, self had not been grasped by the philosophers of antiquity. Reason is no doubt, as we have seen, said to be this self: but Reason as conceived by Aristotle seems, as destitute of any memory of the past and as unaffected by the experiences of life, to be without that attribute of consciousness which would seem necessary to the conception of self. Such criticism is perhaps of somewhat doctrinaire a type, since what applies to reason as creative is true as we have seen only of a phase of reason, and does not interfere with the exercise of consciousness in its application to phenomena. Yet it remains none the less true that Aristotle's theory of reason is full of difficulties which we indeed may try to solve but which are certainly not solved in Aristotle's own writings.

The number of these difficulties might easily be increased: and though, as we have seen, some of them are not so great as they at first sight appear, it is impossible to blind our eyes to the real nature of very many of them. But in place of pointing out defects, it is a pleasanter and perhaps more useful task to enumerate the really important truths which Aristotle's psychological treatise may be allowed to teach us. (1) To begin with, Aristotle was the first who constituted Psychology into a special science. He mapped out the phenomena of mind as the subject of a particular *ιστορία*: and gave a definite turn to the humanitarian studies of Socrates by shewing that the knowledge of man involved particularly a knowledge of the nature of man's *ψυχή*. But (2) while holding that psychology

was to be studied as an independent science, Aristotle further saw that the study of soul could not be successfully conducted so long as it was confined exclusively to the human manifestation of it. Man's $\psi\upsilon\chi\acute{\eta}$ in fact Aristotle found was simply one phase of that general tendency which nature at each stage of life displayed—a tendency to concentrate the specific functional activity of that stage in some definite form. And the law of such stages of life was, he found, one of regular subordination, so that the faculties of thought implied the possession of the faculties of sense and these again the faculties of nutrition. Thus (3) he called attention to the semi-physiological and corporeal character of some mental phenomena: he was especially struck by the material bodily side of the feelings: and he maintained that the body was not to be studied as an abstract entity but with particular reference to the bodily organization adapted to it. (4) He recognized and yet partially solved this dualism in man's nature by his own definition of the $\psi\upsilon\chi\acute{\eta}$ as the implicit realization or truth of body. While unable fully to explain the union of the antithesis he yet shewed that soul and body were not so much two contradictory forces as two complementary counterparts in human nature. But (5) he did not merely content himself with such an abstract explanation of man's $\psi\upsilon\chi\acute{\eta}$; he expanded and illustrated it by an enumeration of the different stages in the development of this soul from lower to higher forms; and by his explanation of the relation of these faculties to one another he advanced considerably beyond the standpoint of Plato. (6) He sketched with considerable success the object, organs and operations of the several senses: his analysis of sound and colour especially deserves notice for its anticipation of modern research. But (7) he also shewed the need of rising above sense in order to explain its intimations. His theory of a central or common sense, though mistaken in ascribing to sense what sense as such is unable to bestow—the distinction, comparison and interpretation of sensations—directs attention nevertheless to the presuppositions of every purely

sensational system of cognition. And the unity of consciousness which he claims for the exercise of sense goes some way in explaining how the different faculties of soul become an indivisible personal self. Still more is this brought out (8) in his theory of a creative reason as the presupposition of the exercise of ordinary thought. For fragmentary though the theory is, it is nevertheless an emphatic assertion of the priority of thought to matter in the universe. How, Aristotle finds himself obliged to ask, does thought think things, how does an immaterial force come to receive and know material phenomena. And his answer is, as we have seen, that thought knows and thinks things only in so far as things are thought, so far as they are the work of reason, so that our subjective thought is but finding *itself* in outward things. Lastly, (9) Aristotle's theory of will forms a natural pendant to this same theory of reason. In place of the vague unsatisfactory conception of *θυμός* in Plato, we find the will conceived not as a single faculty but as the consilience of reason and feeling; while at the same time Aristotle never loses sight of the fact that mere appetite as such does not lead to action, but requires to be constituted by thought as a rational desire before it can issue in conduct.

Psychological research has made great progress since the days of Aristotle. He would have been surprised to find that the association of ideas which he noticed so casually had been constituted by some into a universal key to the whole mental furniture of man, or that the higher mental processes no less than the lower had been resolved into the answer to an external stimulus—into that same conception of 'suffering' and imprint-receiving which he himself regarded as applicable to all but the highest exercise of thought. No true student of his writings will seek to discover these or other modern developments in his writings. But in his conception of the relation of soul and body, in his theory of a central sense and his intuitions of a creative reason, he left behind him lessons which no psychologist can afford to disregard.

ΑΡΙΣΤΟΤΕΛΟΥΣ

ΠΕΡΙ ΨΥΧΗΣ Α.

ΑΡΙΣΤΟΤΕΛΟΥΣ

ΠΕΡΙ ΨΥΧΗΣ Α.

- § 1 Τῶν καλῶν καὶ τιμίῳ τὴν εἶδησιν ὑπολαμβάνοντες, 40
 μᾶλλον δ' ἑτέραν ἑτέρας ἢ κατ' ἀκρίβειαν ἢ τῷ βελτιόνων
 τε καὶ θαυμασιωτέρων εἶναι, δι' ἀμφοτέρω ταῦτα τὴν τῆς
 ψυχῆς ἱστορίαν εὐλόγως ἂν ἐν πρώτοις τιθεῖμεν. δοκεῖ δὲ καὶ
 πρὸς ἀλήθειαν ἅπασαν ἢ γνῶσις αὐτῆς μεγάλα συμβάλ- 5
 λεισθαι, μάλιστα δὲ πρὸς τὴν φύσιν· ἔστι γὰρ οἶον ἀρχὴ
 τῶν ζώων. ἐπιζητοῦμεν δὲ θεωρῆσαι καὶ γνῶναι τὴν τε
 φύσιν αὐτῆς καὶ τὴν οὐσίαν, (εἴθ' ὅσα συμβέβηκε περὶ αὐτήν)
 ὧν τὰ μὲν ἴδια πάθη τῆς ψυχῆς εἶναι δοκεῖ, τὰ δὲ δι'
 § 2 ἐκείνην καὶ τοῖς ζώοις ὑπάρχειν. πάντα δὲ πάντως ἐστὶ τῶν 10
 χαλεπωτάτων λαβεῖν τινὰ πίστιν περὶ αὐτῆς. καὶ γὰρ ὄντος
 κοινού τοῦ ζητήματος πολλοῖς ἑτέροις, λέγω δὲ τοῦ περὶ
 τὴν οὐσίαν καὶ τὸ τί ἐστὶ, τάχ' ἂν τῷ δόξειε μία τις εἶναι
 μέθοδος κατὰ πάντων περὶ ὧν βουλόμεθα γνῶναι τὴν

3. τε om. E Tor. || ταῦτα om. E Tor. || τὴν τῆς] τὴν περὶ τῆς E. Tor.
 9. δι' ἐκείνην] κοινά γ. 10. δὲ καὶ πάντως STUVWγ. 12. ζητήματος καὶ
 πολλοῖς STUVW Tor. 13. τὸ] τοῦ SVWX Bekk. Trend.

ARISTOTLE'S PSYCHOLOGY.

BOOK FIRST.

CHAPTER I.

The acquisition of knowledge is, we conceive, always something high and honourable: but one form of knowledge is superior to another either in virtue of the self-contained simplicity of its truths or by the greater dignity and wondrousness of its contents: and on both these grounds the investigation of the soul might with justice claim a foremost place. And, besides, the knowledge of it is thought to have important bearings on truth generally and especially on nature: for soul is as it were the prime factor in animal existence.

The object of our enquiry is to observe and to discover both the historical development and the essential nature of the soul, and further to find out the phenomena occurring in connection with it—phenomena of which some are thought to be affections peculiar to the soul itself, others, while owing their existence to the soul, are thought to belong to the animal nature taken as a whole. By far in every way the greatest difficulty connected with it is that of reaching some certainty about it. The object of investigation is, it is true, the same here as it is in many other subjects—it is, that is, the question of the essential notion and of the generic character. It might therefore be supposed that there is some one common method applicable to all objects of which we wish to

οὐσίαν, ὥσπερ καὶ τῶν κατὰ συμβεβηκὸς ἰδίων ἀπόδειξις, 15
 ὥστε ζητητέον ἂν εἴη τὴν μέθοδον ταύτην. εἰ δὲ μὴ ἔστι μία
 τις καὶ κοινὴ μέθοδος περὶ τὸ τί ἐστίν, ἔτι χαλεπώτερον
 γίνεται τὸ πραγματευθῆναι· δεῖσει γὰρ λαβεῖν περὶ ἕκα-
 στον τίς ὁ τρόπος. ἐὰν δὲ φανερόν ᾤ, πότερον ἀπόδειξις
 τίς ἐστίν ἢ διαίρεσις ἢ καὶ τις ἄλλη μέθοδος, ἔτι πολλὰς 20
 ἀπορίας ἔχει καὶ πλάνας ἐκ τίνων δεῖ ζητεῖν· ἄλλαι γὰρ
 § 3 ἄλλων ἀρχαί, καθάπερ ἀριθμῶν καὶ ἐπιπέδων. πρῶτον δ'
 ἴσως ἀναγκαῖον διελεῖν ἐν τίνι τῶν γενῶν καὶ τί ἐστίν, λέγω
 δὲ πότερον τόδε τι καὶ οὐσία ἢ ποιὸν ἢ ποσὸν ἢ καὶ τις
 ἄλλη τῶν διαιρεθεισῶν κατηγοριῶν· ἔτι δὲ πότερον τῶν ἐν 25
 δυνάμει ὄντων ἢ μᾶλλον ἐντελέχειά τις· διαφέρει γὰρ οὐ τι
 § 4 σμικρόν. σκεπτέον δὲ καὶ εἰ μεριστὴ ἢ ἀμερής, καὶ πότερον 402^b
 ὁμοειδὴς ἅπασα ψυχὴ ἢ οὐ· εἰ δὲ μὴ ὁμοειδής, πότερον
 εἶδει διαφέρουσιν ἢ γένει. νῦν μὲν γὰρ οἱ λέγοντες καὶ ζη-
 τοῦντες περὶ ψυχῆς περὶ τῆς ἀνθρωπίνης μόνης εἰκόασιν ἐπι-
 § 5 σκοπεῖν. εὐλαβητέον δ' ὅπως μὴ λανθάνῃ πότερον εἰς ὁ λόγος 5
 αὐτῆς ἐστί, καθάπερ ζῶον, ἢ καθ' ἕκαστον ἕτερος, οἶον ἵππου,
 κυνός, ἀνθρώπου, θεοῦ, τὸ δὲ ζῶον τὸ καθόλου ἦτοι οὐθέν
 ἐστίν ἢ ὕστερον· ὁμοίως δὲ καὶ εἴ τι κοινὸν ἄλλο κατηγοροῖτο.
 § 6 ἔτι δ' εἰ μὴ πολλαὶ ψυχαὶ ἀλλὰ μόρια, πότερον δεῖ ζη-

15. ἀπόδειξιν Bekk. SUWX.

17. περὶ τὸ] περὶ τοῦ STUWX.

19. ὅταν

SUW. 20. τις om. TUWX E.

26. μᾶλλον] μόνον E. (Buss.).

402^b 4. μόνον

pr. E Tor.

6. ἐκάστην pr. E Tor.

8. κατηγορεῖται Tor.

discover the essential nature, just as deductive argument traces out the properties dependent on the genus: and in this case we should have to seek the method in question. But if there be no one common method for finding out the generic character, our procedure becomes still more difficult, as it will then be necessary to settle with regard to each subject of investigation what is the method of enquiry which is appropriate to it. And even if it were clear whether some deductive argument or Platonic division or some other method were the right one to apply, yet even so the question from what points we should begin our enquiry is one which offers many difficulties and leaves much room for divergent views, because different conceptions have different fundamental principles, as we see in the difference between the elementary ideas of arithmetic and those of geometry.

The first point however which demands our attention is to determine in which of the higher classes soul is included and what is its generic character—whether, in other words, it is an individual thing and real substance or a quality or quantity or any other of the categories as they have been distinguished. We must further ask whether it belongs to the class of potentialities or is rather a completed actuality—two conceptions between which there is no small difference. Another question, we shall have to ask, is whether it is divisible or free from parts, and whether again all souls are homogeneous or not; and if not homogeneous, whether it is specifically or generically that they differ: for at present writers who investigate the soul seem to confine their observations to the soul of man alone. Special care must be taken to discover whether there is one definition comprehending all the different forms of soul just as the definition of animal applies to all particular animals, or whether the definition is different in respect of each individual species: just as if for example we were to allow a definition of horse, dog, man and God, but should assert that the universal ‘animal’ either signifies no actually existing thing or is posterior to the particular species, this also holding good of any other common term. Should it however be ascertained that there are not

τέιν πρότερον τὴν ὅλην ψυχὴν ἢ τὰ μόρια. χαλεπὸν δὲ καὶ 10
 τούτων διορίσαι ποῖα πέφυκεν ἕτερα ἀλλήλων, καὶ πότερον
 τὰ μόρια χρὴ ζητεῖν πρότερον ἢ τὰ ἔργα αὐτῶν, οἷον τὸ
 νοεῖν ἢ τὸν νοῦν καὶ τὸ αἰσθάνεσθαι ἢ τὸ αἰσθητικόν· ὁμοίως
 § 7 δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ τὰ ἔργα πρότερον, πάλιν ἂν
 τις ἀπορήσειεν εἰ τὰ ἀντικείμενα πρότερον τούτων ζητητέον, οἷον 15
 § 8 τὸ αἰσθητὸν τοῦ αἰσθητικοῦ καὶ τὸ νοητὸν τοῦ νοητικοῦ. ἔοικε
 δ' οὐ μόνον τὸ τί ἐστι γινῶναι χρήσιμον εἶναι πρὸς τὸ θεωρῆσαι
 τὰς αἰτίας τῶν συμβεβηκότων ταῖς οὐσίαις, ὥσπερ ἐν τοῖς
 μαθήμασι τί τὸ εὐθὺ καὶ καμπύλον ἢ τί γραμμὴ καὶ ἐπί-
 πεδον πρὸς τὸ κατιδεῖν πόσαις ὀρθαῖς αἱ τοῦ τριγώνου γωνίαι 20
 ἴσαι, ἀλλὰ καὶ ἀνάπαλιν τὰ συμβεβηκότα συμβάλλεται μέγα
 μέρος πρὸς τὸ εἰδέναι τὸ τί ἐστίν· ἐπειδὴν γὰρ ἔχωμεν
 ἀποδιδόναι κατὰ τὴν φαντασίαν περὶ τῶν συμβεβηκό-
 των, ἢ πάντων ἢ τῶν πλείστων, τότε καὶ περὶ τῆς οὐσίας
 ἔξομεν λέγειν κάλλιστα· πάσης γὰρ ἀποδείξεως ἀρχὴ τὸ τί 25
 ἐστίν. ὥστε καθ' ὅσους τῶν ὀρισμῶν μὴ συμβαίνει τὰ συμ-
 βεβηκότα γνωρίζειν, ἀλλὰ μὴδ' εἰκάσαι περὶ αὐτῶν εὖμα- 403^a
 ρές, δῆλον ὅτι διαλεκτικῶς εἴρηνται καὶ κενῶς ἅπαντες.
 § 9 ἀπορίαν δ' ἔχει καὶ τὰ πάθη τῆς ψυχῆς, πότερόν ἐστι πάντα
 κοινὰ καὶ τοῦ ἔχοντος ἢ ἐστὶ τι καὶ τῆς ψυχῆς ἴδιον αὐτῆς·
 τοῦτο γὰρ λαβεῖν μὲν ἀναγκαῖον, οὐ ῥάδιον δέ. φαίνεται 5

11. τοῦτο V.

12. δεῖ ζητεῖν UWX.

15. πρότερα ES.

Tor. 16. νοῦ EVX.

21. εἰδῆσαι STUWXy.

403^a 2. κενῶς]

περιττῶς W.

several souls, but merely different parts in the soul, the question rises whether we should begin by investigating the whole soul or should start rather with the parts. And here again it is difficult to determine which of them are really different from one another, and whether we should first of all investigate the parts or their functions—whether we should for instance investigate the act of reasoning or the faculty of reason, the act of sensation or the faculty of sense: and so also in other cases. And supposing we determine to examine first of all the functions, still the further question may be raised whether we should beforehand treat of the objects which are their counterpart—treat, that is, of the object of sense before the faculty of sense, and of the object of thought before the faculty of thought.

The truth however seems to be that it is not only a knowledge of the generic character of anything which helps towards detecting the causes of the properties of substances—as in mathematics the knowledge of straight and curved or the generic character of what is a line or superficies assists us in seeing to how many right angles the angles of the triangle are equal—but even conversely the knowledge of the properties contributes in great measure to a knowledge of the ‘what’ or the generic notion. When, in fact, we are able to present to the mind’s eye all or most of the properties which appear to be connected with an object, we shall be in a position to speak as well as may be about the thing itself: although the starting point of all demonstration consists in knowing what a thing is. And thus all definitions that do not convey a knowledge of the properties attending on an object and do not even render it easy to frame a conjecture regarding them are evidently mere empty phrases such as transcendentalists alone would use.

It is a further question whether the affections of the soul are also all shared along with the soul by the body which contains it, or whether there is in addition something peculiar to the soul itself. This is a question which it is necessary and yet not easy to answer. It appears at any rate that in the great majority of cases the soul is neither active nor passive

δὲ τῶν πλείστων οὐθὲν ἄνευ σώματος πάσχειν οὐδὲ ποιεῖν, οἷον ὀργίζεσθαι, θαρρεῖν, ἐπιθυμεῖν, ὅλως αἰσθάνεσθαι. μάλιστα δ' εἰσὶν ἴδιον τὸ νοεῖν· εἰ δ' ἐστὶ καὶ τοῦτο φαντασία τις ἢ μὴ ἄνευ φαντασίας, οὐκ ἐνδέχουσιν ἂν οὐδὲ τοῦτ' ἄνευ § 10 σώματος εἶναι. εἰ μὲν οὖν ἐστὶ τι τῶν τῆς ψυχῆς ἔργων ἢ 10 παθημάτων ἴδιον, ἐνδέχουσιν ἂν αὐτὴν χωρίζεσθαι· εἰ δὲ μηθέν ἐστὶν ἴδιον αὐτῆς, οὐκ ἂν εἴη χωριστή, ἀλλὰ καθάπερ τῷ εὐθεῖ, ἢ εὐθύ, πολλὰ συμβαίνει, οἷον ἄπτεσθαι τῆς χαλκῆς σφαίρας κατὰ στιγμήν, οὐ μέντοι γ' ἄψεται τούτου χωρισθὲν τὸ εὐθύ· ἀχώριστον γάρ, εἴπερ αἰετὰ μετὰ σώματος 15 τινός ἐστιν. εἰσὶν δὲ καὶ τὰ τῆς ψυχῆς πάθη πάντα εἶναι μετὰ σώματος, θυμός, πραότης, φόβος, ἔλεος, θάρσος, ἔτι χαρὰ καὶ τὸ φιλεῖν τε καὶ μισεῖν· ἅμα γὰρ τούτοις πάσχει τι τὸ σῶμα. μηνύει δὲ τὸ ποτὲ μὲν ἰσχυρῶν καὶ ἐναργῶν παθημάτων συμβαινόντων μηδὲν παροξύνεσθαι ἢ 20 φοβεῖσθαι, ἐνίοτε δ' ὑπὸ μικρῶν καὶ ἀμανρῶν κινεῖσθαι, ὅταν ὀργᾷ τὸ σῶμα καὶ οὕτως ἔχῃ ὥσπερ ὅταν ὀργίζηται. ἔτι δὲ τοῦτο μᾶλλον φανερόν· μηθενὸς γὰρ φοβεροῦ συμβαίνοντος ἐν τοῖς πάθεσι γίνονται τοῖς τοῦ φοβουμένου. εἰ δ' οὕτως ἔχει, δῆλον ὅτι τὰ πάθη λόγοι ἐνυλοὶ εἰσιν. ὥστε οἱ ὄροι 25 τοιοῦτοι· οἷον τὸ ὀργίζεσθαι κίνησίς τις τοῦ τοιουδὶ σώματος ἢ § 11 μέρους ἢ δυνάμεως ὑπὸ τοῦδε ἕνεκα τοῦδε. καὶ διὰ ταῦτα ἤδη

6. τῶν μὲν πλ. EXy. Tor. || ἄνευ τοῦ σώματος E. Tor.

8. ἰδίῳ

SWXy.

14. τούτου] οὕτω E. Bz.

16. πάθη πάντα] παθήματα W.

19. μηνύει] σημειῖον E. Tor.

21. εἰς ὀργᾷ STVWX.

23. τοῦτο] τούτου conj.

Tor.

25. ἐν ὅλῃ ET.

without the co-operation of the body, for example in being angry, in shewing courage, in feeling appetite—in one word, in being sensitive. Thought seems to be the clearest case of a state peculiar to the soul alone: but if even thought is only the presentation of an image or not independent of such presentation, it would follow that it is impossible for even this act of the soul to be exercised in independence of the body. If then there be any of the functions or affections of the soul which distinctively belong to it, it would be possible for the soul to exist in separation from the body: if, on the other hand, there be no functions or affections so belonging to it, the soul would not admit of separate existence: it would resemble the straight line which as straight has many properties, such as for example to touch a brazen globe in or at a point, while at the same time it cannot touch the globe when separated from its material embodiment: the straight line being really inseparable as always existing along with some body or another. So in like manner the different feelings appear to be all accompanied by some particular condition of the body—such feelings, viz. as anger, meekness, fear, pity, courage, and further joy and love and hate—all of which appear to be accompanied by some particular affection of the body. This indeed is shewn by the fact that sometimes great and evident disasters which have befallen us cause us no irritation or fear, while at other times the feelings are excited by trivial and almost imperceptible mischances, the body being at such times boiling full and in the same state of excitement as in anger. Still more is this evident from the fact that even without the occurrence of anything really terrible people have the same feelings as a person in fright.

The feelings then are materialized notions, and they require to be defined in correspondence with this character. The feeling of anger for instance has to be defined as on the one hand a certain movement on the part of such and such a body or part or faculty, and as on the other hand excited by such and such a cause and due to such and such motives.

φυσικοῦ τὸ θεωρῆσαι περὶ ψυχῆς, ἥ πάσης ἡ τῆς τοιαύτης.
 διαφερόντως δ' ἂν ὀρίσαιντο φυσικός τε καὶ διαλεκτικός
 ἕκαστον αὐτῶν, οἷον ὀργῇ τί ἐστίν. ὁ μὲν γὰρ ὄρεξιν ἀντιλυ- 30
 πήσεως ἢ τι τοιοῦτον, ὁ δὲ ζέσιν τοῦ περὶ καρδίαν αἵματος
 ἢ θερμοῦ. τούτων δὲ ὁ μὲν τὴν ὕλην ἀποδίδωσιν, ὁ δὲ τὸ 403^b
 εἶδος καὶ τὸν λόγον. ὁ μὲν γὰρ λόγος εἶδος τοῦ πράγματος,
 ἀνάγκη δ' εἶναι τοῦτον ἐν ὕλῃ τοιαδί, εἰ ἔσται, ὥσπερ οἰκίας
 ὁ μὲν λόγος τοιοῦτος, ὅτι σκέπασμα κωλυτικὸν φθορᾶς ὑπ'
 ἀνέμων καὶ ὄμβρων καὶ καυμάτων, ὁ δὲ φήσκει λίθους καὶ 5
 πλίνθους καὶ ξύλα, ἕτερος δ' ἐν τούτοις τὸ εἶδος, ἔνεκα
 τωνδὶ. τίς οὖν ὁ φυσικός τούτων; πότερον ὁ περὶ τὴν ὕλην, τὸν
 δὲ λόγον ἀγνοῶν, ἢ ὁ περὶ τὸν λόγον μόνον; ἢ μᾶλλον ὁ ἐξ
 ἀμφοῖν. ἐκείνων δὲ δὴ τίς ἐκάτερος; ἢ οὐκ ἔστι τις ὁ περὶ
 τὰ πάθη τῆς ὕλης τὰ μὴ χωριστά, μηδ' ἢ χωριστά, ἀλλ' 10
 ὁ φυσικός περὶ ἅπανθ' ὅσα τοῦ τοιουδὶ σώματος καὶ τῆς τοι-
 αύτης ὕλης ἔργα καὶ πάθη· (ὅποσα δὲ μὴ ἢ τοιαῦτα, ἄλ-
 λος, καὶ περὶ τινῶν μὲν τεχνίτης, εἰάν τύχη, οἷον τέκτων ἢ
 ἰατρός) τῶν δὲ μὴ χωριστῶν μὲν, ἢ δὲ μὴ τοιούτου σώματος
 πάθη καὶ ἐξ ἀφαιρέσεως, ὁ μαθηματικός, ἢ δὲ κεχωρι- 15
 σμένα, ὁ πρῶτος φιλόσοφος. ἀλλ' ἐπανιτέον ὅθεν ὁ λόγος.

29. ὀρίσαιντο ὁ φ. STUWX. || καὶ ὁ διαλεκτικός W. 403^b 1. καὶ θ. Bekk.
 Tor. E. 3. ὥσπερ ἐπὶ οἰκίας W. 5. ὄμβρων καὶ πνευμάτων E. || φησι SVX.
 11. τοιουδὶ] φυσικοῦ T. Them. 12. ὅσα E. Tor. || ἢ Tor. 13. τινος
 T, τινα UW.

These facts themselves shew it to lie within the province of the natural philosopher to investigate the soul, either in its whole extent or with reference to the states we have described. Every such state however would be differently defined by the natural philosopher and by the transcendentalist. Take, for instance, the question—what is anger? The transcendentalist would define it as the effort after retaliation or the like, the natural philosopher would describe it as a ferment of the pericardial blood or heat. Here then the latter describes the material aspect of the phenomenon, the former states its form and its notion: for it is the notion which constitutes the form of the object, although at the same time it must in order to exist be realized in such and such a matter. Thus in the case of a house, the notion of it would be somewhat to this effect, that it is a shelter fitted to prevent our sustaining damage by winds and rains and violent heats, but the one observer will describe the stones and bricks and timbers, the other will seize upon the form and end which those materials contain. Which then among these is really the true philosopher of nature? Is it he who concerns himself simply with the material aspects and neglects the notion, or is it he who deals with the notion only? Rather, we may answer, it is he who considers the question from both these standpoints. How then, it may be asked, are we to describe each of the enquirers whom we have named? May we not reply that there is really no one occupied only with the qualities of matter, which are inseparable from it, and so far as they are inseparable from it, but that the natural philosopher is concerned with all the functions and properties attaching to body or matter in so far as it is of some specific kind? (When the qualities are not taken in this general way, they are dealt with by a specialist, who becomes, it may be, respecting some of them an artist, as for instance a builder or physician.) When on the other hand the qualities, though inseparable, can be treated abstractly and are not the qualities of any particular kind of body, they fall within the province of the mathematician, and when considered as entirely independent of material substratum, they fall within the province of the metaphysician.

ἐλέγομεν δ' ὅτι τὰ πάθη τῆς ψυχῆς ἀχώριστα τῆς φυσικῆς ὕλης τῶν ζώων, ἥ δὴ τοιαῦθ' ὑπάρχει θυμὸς καὶ φόβος, καὶ οὐχ ὥσπερ γραμμὴ καὶ ἐπίπεδον.

- § 1 II. Ἐπισκοποῦντας δὲ περὶ ψυχῆς ἀναγκαῖον ἅμα διαπο- 20
 ροῦντας περὶ ὧν εὐπορεῖν δεῖ, προελθόντας τὰς τῶν προτέρων
 δόξας συμπαραλαμβάνειν ὅσοι τι περὶ αὐτῆς ἀπεφάναντο,
 ὅπως τὰ μὲν καλῶς εἰρημένα λάβωμεν, εἰ δέ τι μὴ κα-
 § 2 λῶς, τοῦτ' εὐλαβηθῶμεν. ἀρχὴ δὲ τῆς ζητήσεως προθέσθαι
 τὰ μάλιστα δοκοῦνθ' ὑπάρχειν αὐτῇ κατὰ φύσιν· τὸ ἔμφυ- 25
 χον δὴ τοῦ αἰψύχου δυοῖν μάλιστα διαφέρειν δοκεῖ, κινήσει τε
 καὶ τῷ αἰσθάνεσθαι. παρειλήφαμεν δὲ καὶ παρὰ τῶν προ-
 γεγεστέρων σχεδὸν δύο ταῦτα περὶ ψυχῆς. φασὶ γὰρ ἔνιοι
 καὶ μάλιστα καὶ πρώτως ψυχὴν εἶναι τὸ κινεῖν. οἰθθέντες δὲ
 τὸ μὴ κινούμενον αὐτὸ μὴ ἐνδέχεσθαι κινεῖν ἕτερον, τῶν 30
 § 3 κινουμένων τι τὴν ψυχὴν ὑπέλαβον εἶναι. ὅθεν Δημόκριτος μὲν
 πῦρ τι καὶ θερμόν φησιν αὐτὴν εἶναι· ἀπείρων γὰρ ὄντων 404^α
 σχημάτων καὶ ἀτόμων, τὰ σφαιροειδῆ πῦρ καὶ ψυχὴν λέ-
 γει, οἷον ἐν τῷ ἀέρι τὰ καλούμενα ξύσματα, ἃ φαίνεται ἐν
 ταῖς διὰ τῶν θυρίδων ἀκτῖσιν, ὧν τὴν πανσπερμίαν στοιχεῖα
 λέγει τῆς ὅλης φύσεως· ὁμοίως δὲ καὶ Λεύκιππος· τούτων 5
 δὲ τὰ σφαιροειδῆ ψυχὴν, διὰ τὸ μάλιστα διὰ παντὸς δύ-
 νασθαι διαδύνειν τοὺς τοιούτους ῥυσμούς, καὶ κινεῖν τὰ λοιπὰ
 κινούμενα καὶ αὐτά, ὑπολαμβάνοντες τὴν ψυχὴν εἶναι τὸ

17. οὔτε ὡς χωριστά E. οὐ χωριστά Tor.

18. ἥ δὴ] ἥ γε U., εἴγε T.

22. συμπεριλαμβάνειν TWX.

26. δυοὶ SVWX.

404^α 4. τὴν μὲν παν

σπερμίαν E. Tor.

6. σφαιρ. πῦρ καὶ ψυχὴν V.

We must return however to our original argument. Our position is that the feelings of the soul are inseparable from the physical substratum of animal life. It is in this way then that anger and fear are related to the material: they cannot like lines and surfaces be treated in complete abstraction from it.

CHAPTER II.

The investigation of the nature of the soul requires that we should not only raise difficulties on questions that require settlement; we should also, after we have gone so far, collect the views of those who have previously stated their opinions on the subject: and this in order that we may at once adopt whatever is correctly stated, and also be on our guard against anything that may be the reverse.

The beginning of such an enquiry must be to set forth those characteristics which are generally regarded as the natural attributes of the soul. Now there are two points particularly in which the animate or soul-endowed is thought to differ from the inanimate or soulless—viz. motion and sensation. And these are in fact about the two characteristics of soul which our predecessors have handed down to us.

There are some who maintain that fundamentally and primarily the soul is the principle of movement. They reasoned that that which is not itself in motion cannot move anything else, and thus they regarded the soul as one of those objects which were in motion. Democritus, whose view agrees with that of Leucippus, consequently maintained soul to be a sort of fire and heat. For as the forms of the atoms are as the atoms themselves unlimited, he declares that those which are spherical in shape constitute fire and soul, these atoms being like the so-called motes which are seen in the sunbeams that enter through doorways, and it is in such a mixed heap of seeds that he finds the elements of the whole natural world. The reason why they maintain that the spherical atoms constitute the soul, is that atoms of such configuration are best able to penetrate through everything, and to set the other things in motion at the same time as they are moved themselves, the assumption here being that

παρέχον τοῖς ζώοις τὴν κίνησιν. διὸ καὶ τοῦ ζῆν ὄρον εἶναι
τὴν ἀναπνοήν· συνάγοντος γὰρ τοῦ περιέχοντος τὰ σώματα, 10
καὶ ἐκθλίβοντος τῶν σχημάτων τὰ παρέχοντα τοῖς ζώοις 1b
τὴν κίνησιν διὰ τὸ μηδ' αὐτὰ ἡρεμεῖν μηδέποτε, βοήθειαν
γίγνεσθαι θύραθεν ἐπεισιόντων ἄλλων τοιούτων ἐν τῷ ἀναπνεῖν·
κωλύειν γὰρ αὐτὰ καὶ τὰ ἐνυπάρχοντα ἐν τοῖς ζώοις ἐκ-
κρίνεσθαι, συνανείργοντα τὸ συνάγον καὶ πηγνύον· καὶ ζῆν 15
§ 4 δὲ ἕως ἂν δύνωνται τοῦτο ποιεῖν. ἔοικε δὲ καὶ τὸ παρὰ τῶν
Πυθαγορείων λεγόμενον τὴν αὐτὴν ἔχειν διάνοιαν· ἔφασαν
γάρ τινες αὐτῶν ψυχὴν εἶναι τὰ ἐν τῷ ἀέρι ξύσματα, οἱ
δὲ τὸ ταῦτα κινεῖν. περὶ δὲ τούτων εἴρηται, διότι συνεχῶς
φαίνεται κινούμενα, καὶ ἢ νηνεμία παντελής. ἐπὶ ταῦτο δὲ 20
φέρονται καὶ ὅσοι λέγουσι τὴν ψυχὴν τὸ αὐτὸ κινεῖν· ἐοί-
κασι γὰρ οὗτοι πάντες ὑπειληφέναι τὴν κίνησιν οἰκειότατον
εἶναι τῇ ψυχῇ, καὶ τὰ μὲν ἄλλα πάντα κινεῖσθαι διὰ τὴν
ψυχὴν, ταύτην δ' ὑφ' ἑαυτῆς, διὰ τὸ μηθὲν ὁρᾶν κινεῖν ὃ
§ 5 μὴ καὶ αὐτὸ κινεῖται. ὁμοίως δὲ καὶ Ἀναξαγόρας ψυχὴν 25
εἶναι λέγει τὴν κινουσαν, καὶ εἴ τις ἄλλος εἴρηκεν ὥς τὸ πᾶν
ἐκίνησε νοῦς, οὐ μὴν παντελῶς γ' ὥσπερ Δημόκριτος. ἐκείνος
μὲν γὰρ ἀπλῶς ταῦτον ψυχὴν καὶ νοῦν· τὸ γὰρ ἀληθὲς
εἶναι τὸ φαινόμενον· διὸ καλῶς ποιῆσαι τὸν Ὅμηρον ὡς

13. οὐρανόθεν T. || εἴτ' εἰσιόντων E.
τὴν UW.

19. συχνῶς W.

28. ταῦτο

the soul is that which supplies animals with motion. This same assumption led them to regard respiration as the boundary with which life was coterminous. It was, they held, the tendency of the encircling atmosphere to cause contraction in the animal body and to expel those atomic forms, which, from never being at rest themselves, supply animals with movement. This tendency however was counteracted by the reinforcement derived from the entrance from outside in the act of respiration of new atoms of a similar kind. These last in fact—such was their theory—as they united to repel the compressing and solidifying forces prevented those atoms already existing in animals from being expelled from them: and life, they thought, continued so long as there was strength to carry on this process.

The doctrine ascribed to the Pythagoreans seems also to have this same meaning. Some of them maintained that the soul was the motes within the air, others held that it was what put them in motion. Such motes have been employed to describe the soul, because they present the appearance of continual movement, even though there be a perfect calm.

Similar to the opinion which has just been stated is that which describes the soul as something which sets itself in motion: this and all other like definitions seeming to regard movement as the most distinctive characteristic of the soul. All other things, the supporters of these views imply, are moved in virtue of their soul, but soul is moved by itself: a conclusion which is explained by the observation that nothing is found to produce movement without at the same time moving itself.

Anaxagoras, in like manner, describes mind as the principle of movement: and this indeed must be the account given of it also by any other philosopher who maintains that reason set the universe in motion. Anaxagoras, however, did not regard soul in this light so completely as did Democritus. The latter absolutely identified soul and reason, holding as he did that that which presented itself to sense was real truth: so that (he observed) Homer had well sung of Hector

Ἐκτὼρ κείτ' ἄλλοφρονέων. οὐ δὴ χρήται τῷ νῷ ὡς δυνάμει 30
τινὶ περὶ τὴν ἀλήθειαν, ἀλλὰ ταῦτό λέγει ψυχὴν καὶ νοῦν.

Ἀναξαγόρας δ' ἦττον διασαφεῖ περὶ αὐτῶν· πολλαχοῦ μὲν 40^a
γὰρ τὸ αἴτιον τοῦ καλῶς καὶ ὀρθῶς τὸν νοῦν λέγει, ἐτέρωθι
δὲ τοῦτον εἶναι τὴν ψυχὴν· ἐν ἅπασιν γὰρ ὑπάρχειν αὐτὸν
τοῖς ζώοις, καὶ μεγάλοις καὶ μικροῖς, καὶ τιμίοις καὶ ἀτι-
μοτέροις. οὐ φαίνεται δ' ὅ γε κατὰ φρόνησιν λεγόμενος νοῦς 5
πᾶσιν ὁμοίως ὑπάρχειν τοῖς ζώοις, ἀλλ' οὐδὲ τοῖς ἀνθρώποις
§ 6 πᾶσιν. ὅσοι μὲν οὖν ἐπὶ τὸ κινεῖσθαι τὸ ἔμψυχον ἀπέβλε-
ψαν, οὗτοι τὸ κινητικώτατον ὑπέλαβον τὴν ψυχὴν· ὅσοι δ'
ἐπὶ τὸ γινώσκειν καὶ τὸ αἰσθάνεσθαι τῶν ὄντων, οὗτοι δὲ
λέγουσι τὴν ψυχὴν τὰς ἀρχάς, οἱ μὲν πλείους ποιοῦντες, οἱ 10
δὲ μίαν ταύτην, ὥσπερ Ἐμπεδοκλῆς μὲν ἐκ τῶν στοιχείων
πάντων, εἶναι δὲ καὶ ἕκαστον ψυχὴν τούτων, λέγων οὕτω
γαίῃ μὲν γὰρ γαῖαν ὀπώπαμεν, ὕδατι δ' ὕδωρ,
αἰθέρι δ' αἰθέρα διᾶν, ἀτὰρ πυρὶ πῦρ αἰδηλον,
στοργῇ δὲ στοργήν, νεῖκος δέ τε νεϊκέϊ λυγρῷ. 15

§ 7 τὸν αὐτὸν δὲ τρόπον καὶ Πλάτων ἐν τῷ Τιμαίῳ τὴν ψυ-
χὴν ἐκ τῶν στοιχείων ποιεῖ· γινώσκεσθαι γὰρ τῷ ὁμοίῳ τὸ
ὅμοιον, τὰ δὲ πράγματα ἐκ τῶν ἀρχῶν εἶναι. ὁμοίως δὲ
καὶ ἐν τοῖς περὶ φιλοσοφίας λεγομένοις διωρίσθη, αὐτὸ μὲν
τὸ ζῶον ἐξ αὐτῆς τῆς τοῦ ἐνὸς ιδέας καὶ τοῦ πρώτου μήκους 20
καὶ πλάτους καὶ βάθους, τὰ δ' ἄλλα ὁμοιοτρόπως. ἔτι δὲ
καὶ ἄλλως, νοῦν μὲν τὸ ἓν, ἐπιστήμην δὲ τὰ δύο· μοναχῶς
γὰρ ἐφ' ἓν· τὸν δὲ τοῦ ἐπιπέδου ἀριθμὸν δόξαν, αἰσθησις δὲ

40^a 1. ἀσαφεῖ X.

3. τὸν νοῦν εἶναι ταῦτον τῇ ψυχῇ TW.

7. πᾶσιν

om. STWX.

8. τὸ om. X.

10. ποιοῦντες τὰς ἀρχὰς ταύτας οἱ SX.

21. τὰς δ' ἄλλας ὁμοιοτρόπους Them.

as lying 'with thought apart.' Democritus, this shews, does not employ the term reason to denote a faculty conversant with truth, but uses reason as identical with soul. Anaxagoras himself, however, is less distinct in his identification of the terms. In many places he speaks of reason as the cause of what is beautiful and right, but in other passages he seems to place it on a level with the soul, as when for instance he maintains that it is present in all animals both great and small, both honourable and dishonourable. As matter of fact, however, reason, in the sense of intellect and insight, does not seem to be present equally in all animals or even indeed in all men.

Those then, who have concentrated their attention on the fact that what is animate is in motion have regarded soul as that which is most capable of movement : those thinkers, on the other hand, who have directed their observations to the fact that the soul knows and perceives things existing, identify soul with the elementary principles of all existence, some making those principles to be several in number, others resolving them into this one principle of soul. Thus Empedocles makes the soul to be composed of all the elements, and at the same time considers each one of these elements a soul. His words are as follows :

"Surely by earth we perceive earth, and man knoweth water by water.

By air sees air the divine ; by fire sees fire the destructive :

Yea, love comprehends love, and 'tis through strife dismal we know strife."

In this same fashion also does Plato in the *Timaeus* construct the soul out of the elements. Like, he there maintains, is known by like, and the objects of knowledge are composed of the elements of existence. To the same effect also is the distinction drawn in his lectures on philosophy, where it is shown that on the one hand the generic or abstract form of the living subject is a product containing the abstract form of unity with the primary phase of length and breadth and depth : and that on the other hand other things are formed in a corresponding manner. An additional mode of explanation is to represent reason as perfect unity, understanding as the two (because it proceeds like a single line directly in one way to one conclusion only), whereas opinion is represented as the number

τὸν τοῦ στερεοῦ· οἱ μὲν γὰρ ἀριθμοὶ τὰ εἶδη αὐτὰ καὶ ἀρ-
χαὶ ἐλέγοντο, εἰσὶ δ' ἐκ τῶν στοιχείων. κρίνεται δὲ τὰ πράγ- 25
ματα τὰ μὲν νῶ, τὰ δ' ἐπιστήμη, τὰ δὲ δόξη, τὰ δ' αἰσθή-
§ 8 σει· εἶδη δ' οἱ ἀριθμοὶ οὗτοι τῶν πραγμάτων. ἐπεὶ δὲ καὶ
κινητικὸν ἐδόκει ἢ ψυχὴ εἶναι καὶ γνωριστικὸν οὕτως, ἔνιοι
συνέπλεξαν ἐξ ἀμφοῖν, ἀποφηνάμενοι τὴν ψυχὴν ἀριθμὸν
§ 9 κινεῖνθ' ἑαυτόν. διαφέρονται δὲ περὶ τῶν ἀρχῶν, τίνες καὶ 30
πόσαι, μάλιστα μὲν οἱ σωματικὰς ποιοῦντες τοῖς ἀσώματους,
τούτοις δ' οἱ μίξαντες καὶ ἀπ' ἀμφοῖν τὰς ἀρχὰς ἀποφη- 405
§ 10 νάμενοι. διαφέρονται δὲ καὶ περὶ τὸ πλῆθος· οἱ μὲν γὰρ
μίαν οἱ δὲ πλείους λέγουσιν. ἐπομένως δὲ τούτοις καὶ τὴν
ψυχὴν ἀποδιδόασιν· τό τε γὰρ κινητικὸν τὴν φύσιν τῶν πρῶ-
§ 11 των ὑπειλήφασιν, οὐκ ἀλόγως. ὅθεν ἔδοξέ τισι πῦρ εἶναι· 5
καὶ γὰρ τοῦτο λεπτομερέστατόν τε καὶ μάλιστα τῶν στοιχείων
ἀσώματον, ἔτι δὲ κινεῖται τε καὶ κινεῖ τὰ ἄλλα πρῶτως.
§ 12 Δημόκριτος δὲ καὶ γλαφυρωτέρως εἴρηκεν ἀποφηνάμενος
διὰ τί τούτων ἑκάτερον· ψυχὴν μὲν γὰρ εἶναι ταῦτόν τε καὶ νοῦν,
τοῦτο δ' εἶναι τῶν πρῶτων καὶ ἀδιαιρέτων σωμάτων, κινητι- 10
κὸν δὲ διὰ μικρομέρειαν καὶ τὸ σχῆμα· τῶν δὲ σχημάτων
εὐκινητότατον τὸ σφαιροειδὲς λέγει· τοιοῦτον δ' εἶναι τόν τε
§ 13 νοῦν καὶ τὸ πῦρ· Ἀναξαγόρας δ' ἔοικε μὲν ἕτερον λέγειν
ψυχὴν τε καὶ νοῦν ὥσπερ εἴπομεν καὶ πρότερον, χρῆται δ'

24. καὶ αἱ ἀρχαί] E. Bekk. Tor.
πλήθους STVX.

8. ἀποφαινόμενος E. Tor.

31. ἀσώματοις ESTUVW. 405* 2. τοῦ
10. εἶναι ἐκ τῶν TUVWX.

11. λεπτομέρειαν TE Tor.

14. χρῆσθαι EX.

of a superficies, and sense perception as the number of a solid. Numbers, in fact, were said by the Platonists to be the very forms and principles of existence: and such numbers are formed from the elements. And things are apprehended—some by reason, others by understanding, a third class by opinion, and a fourth order by sense: while the numbers, to which these faculties correspond, constitute the forms or ideas of things themselves.

Since, moreover, the soul was held to be at once a faculty for movement and a faculty for knowledge in this numerical sense, there have been thinkers who have combined the two descriptions and have set forth the soul as a self-moving number.

While however these thinkers agree in reducing the soul to elements or principles, they differ as regards the name and number of the principles: a difference which prevails especially between those who make the principles corporeal, and those who make them incorporeal, and also between both of these and such thinkers as have blended and exhibited their principles as compounded from both sources. They differ too about the number of their principles, some reducing them to one, others regarding them as more in number.

There is a corresponding variation in their views about the soul. The principle of movement they, not unreasonably, regarded as one of the primary elements in the natural world: and consequently there were some who viewed the mind as fire, this being that one among the elements which is made up of the finest parts and is most incorporeal, while further it is the element which is the first to be moved itself and to move other things. The reason for each of these facts Democritus has expressed somewhat neatly. Soul he regarded as identical with reason, and this he held belonged to the class of primary and indivisible bodies, and possessed the faculty of movement by reason of the smallness of its parts and of its peculiar form. Now the form which is most susceptible of movement is the spherical: and of such shape is reason and fire. Anaxagoras, on the other hand, might, as we have said before, sometimes be taken to speak of soul and reason as different from one another: but he really

ἀμφοῖν ὡς μιᾷ φύσει, πλὴν ἀρχὴν γε τὸν νοῦν τίθεται μά- 15
 λιστα πάντων· μόνον γοῦν φησὶν αὐτὸν τῶν ὄντων ἀπλοῦν εἶναι
 καὶ ἀμιγῇ τε καὶ καθαρόν. ἀποδίδωσι δ' ἄμφω τῇ αὐτῇ
 ἀρχῇ, τό τε γινώσκειν καὶ τὸ κινεῖν, λέγων νοῦν κινῆσαι τὸ
 § 14 πᾶν. ἔοικε δὲ καὶ Θαλῆς ἐξ ᾧ ἀπομνημονεύουσι κινητικόν
 τι τὴν ψυχὴν ὑπολαβεῖν, εἴπερ τὸν λίθον ἔφη ψυχὴν ἔχειν, 20
 § 15 ὅτι τὸν σίδηρον κινεῖ. Διογένης δ' ὥσπερ καὶ ἕτεροί τινες,
 ἀέρα, τοῦτον οἰηθεὶς πάντων λεπτομερέστατον εἶναι καὶ ἀρχήν·
 καὶ διὰ τοῦτο γινώσκειν τε καὶ κινεῖν τὴν ψυχὴν, ἥ μὲν πρῶ-
 τόν ἐστι καὶ ἐκ τούτου τὰ λοιπά, γινώσκειν, ἥ δὲ λεπτότατον,
 § 16 κινητικὸν εἶναι. καὶ Ἡράκλειτος δὲ τὴν ἀρχὴν εἶναί φησι 25
 ψυχὴν, εἴπερ τὴν ἀναθυμίασιν, ἐξ ἧς τᾶλλα συνίστησιν· καὶ
 ἀσωματώτατόν τε καὶ ῥέον αἰεὶ· τὸ δὲ κινούμενον κινουμένῳ
 γινώσκεσθαι· ἐν κινήσει δ' εἶναι τὰ ὄντα καὶ κεῖνος ᾧετο καὶ
 § 17 οἱ πολλοί. παραπλησίως δὲ τούτοις καὶ Ἀλκμαίων ἔοικεν
 ὑπολαβεῖν περὶ ψυχῆς· φησὶ γὰρ αὐτὴν ἀθάνατον εἶναι 30
 διὰ τὸ εἰκέναι τοῖς ἀθανάτοις, τοῦτο δ' ὑπάρχειν αὐτῇ ὡς
 αἰεὶ κινουμένη· κινεῖσθαι γὰρ καὶ τὰ θεῖα πάντα συνεχῶς
 § 18 αἰεὶ, σελήνην, ἥλιον, τοὺς ἀστέρας καὶ τὸν οὐρανὸν ὅλον. τῶν δὲ 405^b
 φορτικωτέρων καὶ ὕδωρ τινὲς ἀπεφήναντο, καθάπερ Ἴππων.
 πεισθῆναι δ' εἰόκασιν ἐκ τῆς γονῆς, ὅτι πάντων ὑγρά· καὶ
 γὰρ ἐλέγχει τοὺς αἵμα φάσκοντας τὴν ψυχὴν, ὅτι ἡ γονὴ
 § 19 οὐχ αἷμα· ταύτην δ' εἶναι τὴν πρώτην ψυχὴν. ἕτεροι δ' αἷμα, 5
 καθάπερ Κριτίας, τὸ αἰσθάνεσθαι ψυχῆς οἰκειότατον ὑπο-
 λαμβάνοντες, τοῦτο δ' ὑπάρχειν διὰ τὴν τοῦ αἵματος φύ-

20. τι om. V. || τὴν λίθον X Themist., Philop., Simpl. 24. λεπτομερέστατον
 TUVW. 25. φησι τὴν ψυχὴν UW. 27. τε] δὲ SX, τε EW Tor. 405^b 3.
 ἔοικεν T.

uses the two terms as fundamentally one in nature, with the exception that he makes reason generally the principle of all things. He says at least that 'it alone among existing things is simple and unmixed and pure.' At the same time he assigns to one and the same principle both faculties—both knowledge and movement—in saying as he does that reason moved the universe. Similarly also Thales, from what is related of him, seems to have regarded soul as something with capacity of movement, if it be the case that he spoke of the loadstone as possessing soul because it moves iron.

On the other hand Diogenes as also some others resolved soul into air, supposing that this was the subtlest of all things and, at the same time, a principle of existence. This also, they said, was the reason of the knowledge and of the movement of the soul; the faculty of knowledge falling to it as primary and as that out of which all other things are compounded, that of movement belonging to it as being of the subtlest nature. Heraclitus also identifies the soul with his principle in describing it as the "fiery process" out of which he derives other existing things, his ground being that it is that which is least corporeal and in constant movement. He believed in fact with the many that the objects of existence were in continual movement, and the moved, he argued, could be known only by means of the moved. Alcmaeon too seems to have held similar views about the nature of the soul. The soul, he says, is immortal because it is like the immortal: and it is so because it is in everlasting movement, while all things divine—moon, sun, stars and the whole heaven—are for ever in such everlasting movement.

Among cruder thinkers there have been some such as Hippo who have even described the soul as water. This belief seems to have been suggested to them by generative seed which in all animals is moist—Hippo in fact argues against those who assert that the soul is blood on the very ground that the seed is not blood—and this seed they regarded as the primary form of soul. Others again, like Critias, have identified the soul with blood, regarding sentiency as the most distinctive characteristic of the soul and viewing this sentient capacity as due to the element of blood.

σιν. πάντα γὰρ τὰ στοιχεῖα κριτὴν εἴληφε, πλὴν τῆς γῆς·
ταύτην δ' οὐθεὶς ἀποπέφανται, πλὴν εἴ τις αὐτὴν εἴρηκεν ἐκ
§ 20 πάντων εἶναι τῶν στοιχείων ἢ πάντα. ὀρίζονται δὲ πάντες 10
τὴν ψυχὴν τρισὶν ὡς εἰπεῖν, κινήσει, αἰσθήσει, τῷ ἄσω-
μάτῳ· τούτων δ' ἕκαστον ἀνάγεται πρὸς τὰς ἀρχάς. διὸ καὶ
οἱ τῷ γινώσκειν ὀριζόμενοι αὐτὴν ἢ στοιχεῖον ἢ ἐκ τῶν στοι-
χείων ποιοῦσι, λέγοντες παραπλησίως ἀλλήλοις, πλὴν ἐνός·
φασὶ γὰρ γινώσκεισθαι τὸ ὅμοιον τῷ ὁμοίῳ· ἐπειδὴ γὰρ ἡ 15
ψυχὴ πάντα γινώσκει, συνιστᾷσιν αὐτὴν ἐκ πασῶν τῶν ἀρ-
§ 21 χῶν. ὅσοι μὲν οὖν μίαν τιὰ λέγουσιν αἰτίαν καὶ στοιχεῖον ἓν,
καὶ τὴν ψυχὴν ἓν τιθέασιν, οἷον πῦρ ἢ ἀέρα· οἱ δὲ πλείους
§ 22 λέγοντες τὰς ἀρχὰς καὶ τὴν ψυχὴν πλείω ποιοῦσιν. Ἀνα-
ξαγόρας δὲ μόνος ἀπαθῇ φησὶν εἶναι τὸν νοῦν, καὶ κοινὸν 20
οὐθέν οὐθενὶ τῶν ἄλλων ἔχειν. τοιοῦτος δ' ὢν πῶς γνωριεῖ καὶ
διὰ τίν' αἰτίαν, οὐτ' ἐκείνος εἴρηκεν οὐτ' ἐκ τῶν εἰρημένων συμ-
§ 23 φανές ἐστιν. ὅσοι δ' ἐναντιώσεις ποιοῦσιν ἐν ταῖς ἀρχαῖς, καὶ
τὴν ψυχὴν ἐκ τῶν ἐναντίων συνιστᾷσιν· οἱ δὲ θάτερον τῶν
ἐναντίων, οἷον θερμὸν ἢ ψυχρὸν ἢ τι τοιοῦτον ἄλλο, καὶ τὴν 25
ψυχὴν ὁμοίως ἓν τι τούτων τιθέασιν· διὸ καὶ τοῖς ὀνόμασιν
ἀκολουθοῦσιν, οἱ μὲν τὸ θερμὸν λέγοντες, ὅτι διὰ τοῦτο καὶ τὸ
ζῆν ὀνόμασται, οἱ δὲ τὸ ψυχρὸν διὰ τὴν ἀναπνοὴν καὶ τὴν
κατάψυξιν καλεῖσθαι ψυχὴν. τὰ μὲν οὖν παραδεδομένα
περὶ ψυχῆς, καὶ δι' αὐτὰς αἰτίας λέγουσιν οὕτω, ταῦτ' ἐστίν. 30

8. γὰρ] δ' οὖν TV.

9. ἀποφαίνεται STVWX.

12. ἀνάγεσθαι UW.

19. ποιοῦσιν] λέγουσιν STUW.

25. ἄλλο—26. τ ὑτων om. E. Ald.

27. οἱ

μὲν γὰρ τὸ E. Tor.

Thus, with the one exception of the earth, all the elements have gained a vote. The earth however has been adduced by no one except indeed in such cases as some thinker has explained the soul as formed from all the elements or has actually identified it with them all. Each in fact of the three attributes which we may say are generally used to characterise the soul—movement, perception and incorporeal existence—is supposed to characterize the principles of being. And for this very reason all those who define soul by its capacity for knowledge make it either an element or one of the elements, using (with the exception of one of their number) almost identical expressions respecting it. Like, in short, they say, is known by like; and since the soul knows all things, they constitute it out of all the elements. Thus then those thinkers who admit only some one cause and some one element identify the soul also with some one thing such as fire or air: those, on the other hand, who regard the primary elements of existence as more than one, resolve the soul also into several such elements. Anaxagoras alone says that the reason is not subject to modification from without and has nothing in common with anything beside itself. How being such it is to acquire knowledge and why this is so is a subject on which Anaxagoras has said nothing, nor does the general tenour of his writings help to make it plain. As many further as posit opposites among their primary elements of being constitute the soul also out of contraries; while those who maintain the one or other among contraries—as for example hot or cold or something of this character—resolve the soul also in a corresponding manner into some one or other of these elements. Hence further such thinkers follow etymologies: some maintaining soul to be the ‘hot’ because it is from the name of heating or ‘seething’ that the word to live is etymologically derived: others holding soul to be the ‘cold’ because it is from respiration and cooling that the word for soul has been constructed.

Such then are the opinions which have been handed down respecting soul, as also the grounds on which they rest.

III. Ἐπισκεπτέον δὲ πρῶτον μὲν περὶ κινήσεως· ἴσως γὰρ οὐ μόνον ψευδός ἐστι τὸ τὴν οὐσίαν αὐτῆς τοιαύτην εἶναι οἶαν φασὶν οἱ λέγοντες ψυχὴν εἶναι τὸ κινεῖν ἑαυτὸ ἢ δυνάμενον ⁴⁰⁶ κινεῖν, ἀλλ' ἐν τι τῶν ἀδυνάτων τὸ ὑπάρχειν αὐτῇ κίνησιν.

§ 2 ὅτι μὲν οὖν οὐκ ἀναγκαῖον τὸ κινεῖν καὶ αὐτὸ κινεῖσθαι, πρότερον εἴρηται. διχῶς δὲ κινουμένου παντός (ἢ γὰρ καθ' ἕτερον ἢ καθ' αὐτό· καθ' ἕτερον δὲ λέγομεν, ὅσα κινεῖται τῷ ἐν ⁵ κινουμένῳ εἶναι, οἷον πλωτῆρες· οὐ γὰρ ὁμοίως κινοῦνται τῷ πλοίῳ· τὸ μὲν γὰρ καθ' αὐτὸ κινεῖται, οἱ δὲ τῷ ἐν κινουμένῳ εἶναι. δῆλον δ' ἐπὶ τῶν μορίων· οἰκεία μὲν γάρ ἐστι κίνησις ποδῶν βάδισις, αὕτη δὲ καὶ ἀνθρώπων· οὐχ ὑπάρχει δὲ τοῖς πλωτῆρσι τότε) διχῶς δὲ λεγομένου τοῦ κινεῖ- ¹⁰ σθαι, νῦν ἐπισκοποῦμεν περὶ τῆς ψυχῆς εἰ καθ' αὐτὴν κινεῖται καὶ μετέχει κινήσεως. τεσσάρων δὲ κινήσεων οὐσῶν, φορᾶς ἀλλοιώσεως φθίσεως αὐξήσεως, ἢ μίαν τούτων κινεῖται ἂν ἢ πλείους ἢ πάσας. εἰ δὲ κινεῖται μὴ κατὰ συμβεβηκός, φύσει ἂν ὑπάρχοι κίνησις αὐτῇ· εἰ δὲ τοῦτο, καὶ ¹⁵ τόπος· πᾶσαι γὰρ αἱ λεχθεῖσαι κινήσεις ἐν τόπῳ. εἰ δ' ἐστὶν ἡ οὐσία τῆς ψυχῆς τὸ κινεῖν ἑαυτήν, οὐ κατὰ συμβε-

32. ψευδός] ψευδές W. 406^a 1. αὐτὸ UW. 3. οὐκ om. S. 9. βάσις U. || καὶ om. U. 10. διχῶς δὲ] δισῶς E, διχῶς δὲ Sus. 11. περισκοποῦμεν V. 13. φθίσεως om pr. E.

CHAPTER III.

Before proceeding further we must investigate the subject of movement. The truth may be that it is not only false to say that the essential substance of soul is of the character assigned to it by those who assert that soul is that which moves itself or is capable of producing movement: it may be an actual impossibility that movement should be a predicate of soul.

That that which causes motion need not itself be in motion is an opinion which has been previously stated. But further there are two senses in which everything that is in motion may be said to be so. The movement may be either directly its own or it may be communicated through something else. The latter expression is applied to all those things that are moved through being within something which is moved, as is for instance the case with sailors in a ship: the sailors not being moved in the same sense as the vessel, because while the vessel is in movement by itself the sailors are so through being in an object that is moved. This becomes evident when we apply it to the limbs. Walking for instance is a movement which belongs distinctively to the feet, it is also a movement which belongs to man as such, and yet it is not true of the sailors at the time when we are considering them.

There are then two senses in which we may say a thing is in motion: and we must now enquire with reference to soul whether *in itself* it is moved and participates in movement. Now there are four forms of movement—locomotion, alteration, decomposition and augmentation. The motion of the soul must be therefore either one of these four forms, or several of them, or all of them taken together. But further this movement of the soul, if it be not merely an accidental concomitant, must proceed from nature: and, if this be so, space will be an attribute of it, inasmuch as all the movements which we have mentioned occur in space. [But the soul's movement is no mere accidental concomitant.] If it be its very essence to set itself in motion, it will not be merely in an incidental sense that

βηκὸς αὐτῇ τὸ κινεῖσθαι ὑπάρξει, ὥσπερ τῷ λευκῷ ἢ τῷ
 τριπλήχει· κινεῖται γὰρ καὶ ταῦτα, ἀλλὰ κατὰ συμβεβη-
 κός· ᾧ γὰρ ὑπάρχουσιν, ἐκεῖνο κινεῖται, τὸ σῶμα. διὸ καὶ 20
 οὐκ ἔστι τόπος αὐτῶν· τῆς δὲ ψυχῆς ἔσται, εἴπερ φύσει
 § 4 κινήσεως μετέχει. ἔτι δ' εἰ φύσει κινεῖται, καὶ βία κινη-
 θεῖη· καὶ εἰ βία, καὶ φύσει. τὸν αὐτὸν δὲ τρόπον ἔχει καὶ
 περὶ ἡρεμίας· εἰς ὃ γὰρ κινεῖται φύσει, καὶ ἡρεμεῖ ἐν τούτῳ
 φύσει· ὁμοίως δὲ καὶ εἰς ὃ κινεῖται βία, καὶ ἡρεμεῖ ἐν 25
 τούτῳ βία. ποῖαι δὲ βίαιοι τῆς ψυχῆς κινήσεις ἔσονται καὶ
 § 5 ἡρεμίαι, οὐδὲ πλάττειν βουλομένοις ῥάδιον ἀποδοῦναι. ἔτι δ'
 εἰ μὲν ἄνω κινήσεται, πῦρ ἔσται, εἰ δὲ κάτω, γῆ· τούτων
 γὰρ τῶν σωμάτων αἱ κινήσεις αὗται. ὁ δ' αὐτὸς λόγος καὶ
 § 6 περὶ τῶν μεταξύ. ἔτι δ' ἐπεὶ φαίνεται κινουῖσα τὸ σῶμα, 30
 ταύτας εὐλογον κινεῖν τὰς κινήσεις αἷς καὶ αὐτὴ κινεῖται.
 εἰ δὲ τοῦτο, καὶ ἀντιστρέψασιν εἰπεῖν ἀληθὲς ὅτι ἦν τὸ
 σῶμα κινεῖται, ταύτην καὶ αὐτή. τὸ δὲ σῶμα κινεῖται φορᾶ· 406^b
 ὥστε καὶ ἡ ψυχὴ μεταβάλλοι ἂν κατὰ τὸ σῶμα ἢ ὅλη ἢ
 κατὰ μόρια μεθισταμένη. εἰ δὲ τοῦτ' ἐνδέχεται, καὶ ἐξελλθοῦ-
 σαν εἰσιέναι πάλιν ἐνδέχοιτ' ἂν· τούτῳ δ' ἔποιτ' ἂν τὸ ἀνί-
 § 7 στασθαι τὰ τεθνεῶτα τῶν ζώων. τὴν δὲ κατὰ συμβεβηκός 5
 κίνησιν καὶ ὑφ' ἐτέρου κινεῖτο· ὡσθὲν γὰρ ἂν βία τὸ ζῶον.

18. ὑπάρχει E. 23. καὶ εἰ] εἰ om. pr. E. καὶ φύσει] κατὰ φύσιν
 pr. E. 406^b 2. μεταβάλλοι ἂν κατὰ τὸ σῶμα] μ. α. κατὰ τόπον Bz. 3.
 ἐνδέχοιτο STVW. εἰ δὲ τοῦτο, ἐνδέχοιτ' ἂν καὶ ἐξ. εἰς. πάλιν Bz. 4. ἐνδέχοιτ' ἂν
 om. SWX Bz.

motion will belong to it, as is for instance the case with the movement of white colour or three cubits length. These last are moved indeed, but they are so simply incidentally, in so far as the body in which they inhere is moved; and thus space is no attribute connected with them. Such space however will be an attribute of the soul if it be the case that the soul participates in movement by its very nature.

Further, if the soul be in motion by its inherent nature, it should also admit of being put in motion by external force: and supposing it to be moved by force, it should also admit of being moved by nature. So also is it with respect to rest: for when an object is moved by nature into some state or other, it also rests in this by nature, just as when an object is moved into any state by external force it also rests in this state by force. But even the most vivid imagination will find a difficulty in explaining what would be the character of the forced movements and repose of the soul.

Again, if the movement of the soul be upward it will be composed of fire, if downward, of earth; such being the directions in which these bodies naturally move. And the same holds good also of the intermediate elements.

But fourthly, since the soul according to all appearance sets the body in motion, we may reasonably suppose that it originates in the body the same movements as those by which it is itself in movement. But if this be so, then it follows by conversion that whatever be the movement with which the body is moved, such also is that with which the soul itself is moved. Now the movement of the body is a local movement. It follows therefore that the soul would also change its position in respect of the body, executing these changes either in its entirety or in its several parts. But were this possible it would further follow that the soul would be able after passing out of the body to enter it again: and this in turn would involve the absurd conclusion that animals after having died can rise again.

With regard on the other hand to accidental movement, it is true that the soul could be thus moved incidentally at the hand of something else: the animal in which the soul is contained may be pushed on by external force: and so the soul

οὐ δεῖ δὲ ὧ τὸ ὑφ' ἑαυτοῦ κινεῖσθαι ἐν τῇ οὐσίᾳ, τοῦθ' ὑπ' ἄλλου κινεῖσθαι, πλὴν εἰ μὴ κατὰ συμβεβηκός, ὥσπερ οὐδὲ τὸ καθ' αὐτὸ ἀγαθὸν ἢ δι' αὐτό, τὸ μὲν δι' ἄλλο εἶναι, τὸ δ' ἑτέρου ἔνεκεν. τὴν δὲ ψυχὴν μάλιστα φαίη τις ἂν ὑπὸ τῶν 10
 § 8 αἰσθητῶν κινεῖσθαι, εἴπερ κινεῖται. ἀλλὰ μὴν καὶ εἰ κινεῖ γε αὐτὴ αὐτήν, καὶ αὐτὴ κινεῖτ' ἂν, ὥστ' εἰ πᾶσα κίνησις ἔκστασις ἐστὶ τοῦ κινουμένου ἢ κινεῖται, καὶ ἡ ψυχὴ ἐξίσταται ἂν ἐκ τῆς οὐσίας, εἰ μὴ κατὰ συμβεβηκός αὐτὴν κινεῖ. ἀλλ'
 § 9 ἔστιν ἡ κίνησις τῆς οὐσίας αὐτῆς καθ' αὐτήν. ἔνιοι δὲ καὶ 15 κινεῖν φασὶ τὴν ψυχὴν τὸ σῶμα ἐν ᾧ ἐστίν, ὡς αὐτὴ κινεῖται, οἷον Δημόκριτος, παραπλησίως λέγων Φιλίππῳ τῷ κωμωδοδιδασκάλῳ. φησὶ γὰρ τὸν Δαίδαλον κινουμένην ποιῆσαι τὴν ξυλίνην Ἀφροδίτην, ἐγχέαντ' ἄργυρον χυτόν. ὁμοίως δὲ καὶ Δημόκριτος λέγει. κινουμένας γάρ φησι τὰς ἀδιαίρετους 20 σφαίρας διὰ τὸ πεφυκέναι μηδέποτε μένειν, συνεφέλκειν
 § 10 καὶ κινεῖν τὸ σῶμα πᾶν. ἡμεῖς δ' ἐρωτήσομεν εἰ καὶ ἡρέμῃσιν ποιεῖ ταῦτα ταῦτα. πῶς δὲ ποιήσει, χαλεπὸν ἢ καὶ ἀδύνατον εἰπεῖν. ὅλως δ' οὐχ οὕτω φαίνεται κινεῖν ἢ ψυχὴ
 § 11 τὸ ζῶον, ἀλλὰ διὰ προαιρέσεώς τινος καὶ νοήσεως. τὸν αὐτὸν 25 δὲ τρόπον καὶ ὁ Τίμαιος φυσιολογεῖ τὴν ψυχὴν κινεῖν τὸ σῶμα· τῷ γὰρ κινεῖσθαι αὐτὴν καὶ τὸ σῶμα κινεῖν διὰ τὸ συμπεπλέχθαι πρὸς αὐτό. συνεστηκυῖαν γὰρ ἐκ τῶν στοιχείων, καὶ μεμερισμένην κατὰ τοὺς ἀρμονικοὺς ἀριθμούς, ὅπως αἰσθησὶν τε σύμφυτον ἀρμονίας ἔχῃ καὶ τὸ πᾶν φέρηται 30

8. μὴ om. E.

11. αἰσθητικῶν S. Ald.

12. καὶ αὐτὴ κινεῖτ' ἂν

οὐσία conj. Trend.

13. ἐξίσταται (om. ἂν) SWX.

17. κωμωδοδιδασκάλῳ

TUVWX.

22. ἐρωτήσωμεν STUVW || ἡρεμήσειν ποιεῖ τοῦτ' αὐτὸ STUW.

would be indirectly put in motion. But if a thing is essentially put in motion of itself, it must not be supposed put in motion by something else (unless in an indirect sense), just as the self-subsisting good should not be the good pursued for other ends nor the good absolute become the good relative. And yet about the only thing by which the soul, supposing it is moved, could be said to be so, would be the objects of sense.

If on the other hand it be said that the soul sets itself in motion in and by itself alone, it follows that it would also *be* moved in and by itself. But all movement is a displacement of the moved *qua* moved: and therefore the soul would be displaced and taken out of its essential nature, if it be not merely incidentally that it sets itself in motion. This however is the reverse of our hypothesis which holds that the motion is an attribute of its essential nature in and by itself.

A further modification of this theory is found in the view of those who say that the soul moves the body which contains it in a manner corresponding to that in which the soul itself is moved. This view is held by Democritus, whose words rather recall the saying of Philippus the comedian, that Daedalus made his wooden Aphrodite capable of movement by pouring quicksilver into her. Democritus' explanation is in truth not much superior to this. He tells us that the atomic globules contract and move the whole body in virtue of the law imposed upon them never to remain at rest. But, we should ask, are these same elements to produce rest also? How they will produce this result it is difficult or in fact impossible to say. And indeed generally, apart from any special form of this doctrine, the soul, so far as we can see, moves the body not in this manner but through the agency of purpose and of thought.

The Timaeus similarly explains on physiological principles the manner in which the soul moves the body: reasoning that the soul by the fact that it is itself in motion moves the body also, in consequence of its intricate conjunction with it. The writer regards the soul as compounded of the different elements and distributed according to the harmonic numbers [which underlie the universe] in order that it might have an original inborn perception of harmony and altogether be borne in har-

συμφώνους φοράς, τὴν εὐθυωρίαν εἰς κύκλον κατέκαμψεν· καὶ διελὼν ἐκ τοῦ ἐνὸς δύο κύκλους δισσοχαῇ συνημμένους πάλιν τὸν ἕνα διεῖλεν εἰς ἑπτὰ κύκλους, ὡς οὕσας τὰς τοῦ 407^a

§ 12 οὐρανοῦ φοράς τὰς τῆς ψυχῆς κινήσεις. πρῶτον μὲν οὖν οὐ καλῶς τὸ λέγειν τὴν ψυχὴν μέγεθος εἶναι. τὴν γὰρ τοῦ παντὸς δῆλον ὅτι τοιαύτην εἶναι βούλεται οἷόν ποτ' ἐστὶν ὁ καλούμενος νοῦς· οὐ γὰρ δὴ οἷόν γ' ἡ αἰσθητική, οὐδ' οἷον ἡ ἐπιθυ- 5

§ 13 μητική· τούτων γὰρ ἡ κίνησις οὐ κυκλοφορία. ὁ δὲ νοῦς εἰς καὶ συνεχής, ὥσπερ καὶ ἡ νόησις· ἡ δὲ νόησις τὰ νοήματα· ταῦτα δὲ τῷ ἐφεξῆς ἔν, ὡς ὁ ἀριθμός, ἀλλ' οὐκ ὡς τὸ μέγεθος. διόπερ οὐδ' ὁ νοῦς οὕτω συνεχής, ἀλλ' ἥτοι ἀμερῆς ἡ οὐκ ὡς μέγεθός τι συνεχής· πῶς γὰρ δὴ καὶ νοήσει μέγεθος ὦν; 10 πότερον καθόλου ἢ ὁτφοῦν τῶν μορίων τῶν αὐτοῦ; μορίων δ' ἥτοι κατὰ μέγεθος ἢ κατὰ στιγμήν, εἰ δεῖ καὶ τοῦτο μόριον

§ 14 εἰπεῖν. εἰ μὲν οὖν κατὰ στιγμήν, αὐταὶ δ' ἄπειροι, δῆλον ὡς οὐδέποτε διέξεισιν, εἰ δὲ κατὰ μέγεθος, πολλάκις ἢ ἀπειράκις νοήσει τὸ αὐτό. φαίνεται δὲ καὶ ἄπαξ ἐνδεχόμενον. εἰ δ' ἰκα- 15 νὸν θιγεῖν ὁτφοῦν τῶν μορίων, τί δεῖ κύκλῳ κινεῖσθαι ἢ καὶ ὅλως μέγεθος ἔχειν; εἰ δ' ἀναγκαῖον νοῆσαι τῷ ὅλῳ κύκλῳ θιγόντα, τίς ἐστὶν ἡ τοῖς μορίοις θίξις; ἔτι δὲ πῶς νοήσει τὸ μεριστὸν ἀμερεῖ καὶ τὸ ἀμερὲς μεριστῷ; ἀναγκαῖον δὲ τὸν νοῦν εἶναι τὸν κύκλον τούτου. νοῦ μὲν γὰρ κίνησις νόησις, 20

32. κύκλους δύο E. Tor. 407^a 8. ὡς ὁ ἀριθμός] ὁ om. Trend. 10. μέγ.
ὦν ὁτφοῦν τῶν μορίων Sylb., Bekk. || πότερον καθ' ὅλον θιγῶν ἢ κ.τ.λ. Tor. 11. τῶν
μορίων] μορίῳ E. 18. θιγόντι V. 19. ἀμερεῖ ἢ Ey Tor.

monious courses. The soul so compounded, he bent the straight line [of the numbers] round into a circle, and when out of the one circle he had cut two circles connected at two points, he again divided the one circle into seven circles, considering as he did the revolutions of the heaven to correspond with the movements of the soul.

The first objection to this theory is that it is not befitting to speak of the soul as a magnitude, at the same time as the soul of the universe is evidently intended to be some such thing as is the so-called reason: it cannot at least be something like the sensitive or appetitive soul which is so described, as their movement is not circular rotation. Reason however is, no doubt, marked by unity and continuity, but it is so only in the sense in which the action of thought is so also. Now the action of thought is equivalent to the objects of thought; and these, it is true, form by their sequence a unity, but it is the unity of a number and not of a geometrical body. Hence then neither is the reason continuous in this sense but it is either destitute of parts or it is not continuous as a magnitude. How, in fact, if it be a magnitude, is it to think? Is it to do so as a whole or only with some one of its parts? If it be with the parts, it must be either as a magnitude or as a point if we may call this last a part. If, however, it be as a point, then, as the number of points in a given magnitude is endless, the process of thought will never reach an end; if it be as a magnitude it will think the same thing frequently or without limit. But, as matter of observation, thought may be exercised once for all.

Besides if it be sufficient for the soul to have touched with any of its parts, what need is there for it to move in a circle or indeed to have magnitude at all? If, on the other hand, it be necessary for thought that it should touch with the whole circle of the soul, what will happen when it touches with the parts? How further is it to think that which has parts through that which is without parts, or that which is without parts by that which has parts? And yet (from the standpoint of the *Timaeus*) reason must be a circle of this material kind: for thinking must be the movement of reason just as revolving is that of a circle: so that if thinking be a process of revolving

- § 15 κύκλου δὲ περιφορά. εἰ οὖν ἡ νόησις περιφορά, καὶ νοῦς ἂν εἴη
 ὁ κύκλος, οὗ ἡ τοιαύτη περιφορά νόησις. αἰεὶ δὲ δὴ τι νοή-
 σει· δεῖ γάρ, εἴπερ αἰδίδιος ἡ περιφορά. τῶν μὲν γὰρ πρα-
 κτικῶν νοήσεων ἔστι πέρατα (πᾶσαι γὰρ ἐτέρου χάριν), αἱ δὲ
 θεωρητικαὶ τοῖς λόγοις ὁμοίως ὀρίζονται. λόγος δὲ πᾶς ὀρι- 25
 σμός ἢ ἀποδείξεις. αἱ δ' ἀποδείξεις καὶ ἀπ' ἀρχῆς, καὶ
 ἔχουσί πως τέλος, τὸν συλλογισμόν ἢ τὸ συμπέρασμα· εἰ δὲ
 μὴ περατοῦνται, ἀλλ' οὐκ ἀνακάμπτουσί γε πάλιν ἐπ' ἀρχήν,
 προσλαμβάνουσαι δ' αἰεὶ μέσον καὶ ἄκρον εὐθυποροῦσιν· ἡ δὲ
 περιφορά πάλιν ἐπ' ἀρχήν ἀνακάμπτει. οἱ δ' ὀρίσμοι πάν- 30
 § 16 τες πεπερασμένοι. ἔτι εἰ ἡ αὐτὴ περιφορά πολλάκις, δεή-
 § 17 σει πολλάκις νοεῖν τὸ αὐτό. ἔτι δ' ἡ νόησις ἔοικεν ἡρεμήσει
 τινὶ καὶ ἐπιστάσει μᾶλλον ἢ κινήσει· τὸν αὐτὸν δὲ τρόπον
 § 18 καὶ ὁ συλλογισμός. ἀλλὰ μὴν οὐδὲ μακάριόν γε τὸ μὴ ῥά-
 διον ἀλλὰ βίαιον· εἰ δ' ἐστὶν ἡ κίνησις αὐτῆς μὴ οὐσία, 407^b
 § 19 παρὰ φύσιν ἂν κινοῖτο. ἐπίπονον δὲ καὶ τὸ μεμῖχθαι τῷ
 σώματι μὴ δυνάμενον ἀπολυθῆναι, καὶ προσέτι φευκτόν,
 εἴπερ βέλτιον τῷ νῷ μὴ μετὰ σώματος εἶναι, καθάπερ
 § 20 εἰώθε τε λέγεσθαι καὶ πολλοῖς συνδοκεῖ. ἄδηλος δὲ καὶ τοῦ 5
 κύκλω φέρεσθαι τὸν οὐρανὸν ἢ αἰτία· οὔτε γὰρ τῆς ψυχῆς ἡ
 οὐσία αἰτία τοῦ κύκλω φέρεσθαι, ἀλλὰ κατὰ συμβεβηκὸς
 οὕτω κινεῖται, οὔτε τὸ σῶμα αἷτιον, ἀλλ' ἡ ψυχὴ μᾶλλον
 § 21 ἐκείνῳ. ἀλλὰ μὴν οὐδ' ὅτι βέλτιον λέγεται· καίτοι γ' ἐχρήν

23. γὰρ ποιητικῶν ἢ πρ. SUWX.

ἀποδείξεις γ. Tor.

27. ἔχουσα E.

407^b 1. μὴ οὐσία] conj. Tor. ἢ οὐσία.

26. ἡ μὲν οὖν ἀποδείξεις E. αἱ μὲν οὖν

29. προσαναλαμβάνουσαι E. Tor.

2. ἂν κινοῖτο E. ceteri κινοῖτ' ἂν.

it follows that reason would be the circle of which such a revolution constitutes thought. And again the soul will be continually involved in thought, since (as is asserted in the *Timaeus*) circular movement is everlasting. [This however is opposed to all experience:] in the case of processes of thought leading to action there are certain ends which limit them, all being for the sake of something else, and thoughts applied to speculation only are limited in the same manner as the reasoned explanations which they involve. Now every explanation resolves itself into either a definition or a deductive demonstration. But as for demonstrations, they both start from a principle as a beginning and have as it were a termination in the syllogism or the conclusion; and even if they do not reach a termination, still they do not turn back again to the beginning, but, employing always a fresh middle term and an extreme, proceed forward in a straight line, whereas a circular movement always returns back to the beginning. The same thing holds good also of definitions: they are all limited and determined. Besides, if the same revolution takes place a great many times, it will be necessary to think the same thing frequently. Further, thought bears a greater similarity to rest and stoppage than to motion: and so also is it likewise with syllogism.

Happiness, again, cannot be an attribute of that which is acted on by force and does not happen with ease: and if, to obviate this difficulty, it be held that movement does not constitute the soul's essential nature, its movement would be contrary to nature. It is burdensome also for the soul to be united with the body without possibility of release from it: and not only so, but such union is even something which is to be if possible avoided, supposing it to be better for the reason to be independent of the body, as is usually said and widely believed.

There is an obscurity also as to the reason why the heavens are carried in a circle; for it is not the essential nature of the soul which is the reason of its being carried in a circle, this movement being merely incidental to it: nor is it the body which is the cause, the soul being rather the cause which produces movement in the body. Nor indeed is it asserted that the soul moves in this manner because it is its better course.

διὰ τοῦτο τὸν θεὸν κύκλῳ ποιεῖν φέρεσθαι τὴν ψυχὴν, ὅτι 10
βέλτιον αὐτῇ τὸ κινεῖσθαι τοῦ μένειν, κινεῖσθαι δ' οὕτως ἢ
ἄλλως. ἐπεὶ δ' ἐστὶν ἡ τοιαύτη σκέψις ἐτέρων λόγων οἰκειο-

§ 22 τέρα, ταύτην μὲν ἀφῶμεν τὸ νῦν. ἐκείνο δὲ ἄτοπον συμ-
βαίνει καὶ τούτῳ τῷ λόγῳ καὶ τοῖς πλείστοις τῶν περὶ ψυ-
χῆς· συνάπτουσι γὰρ καὶ τιθέασιν εἰς σῶμα τὴν ψυχὴν, οὐ- 15
θὲν προσδιορίζαντες διὰ τίν' αἰτίαν καὶ πῶς ἔχοντος τοῦ
σώματος. καίτοι δόξειεν ἂν τοῦτ' ἀναγκαῖον εἶναι· διὰ γὰρ τὴν
κοινωνίαν τὸ μὲν ποιεῖ τὸ δὲ πάσχει καὶ τὸ μὲν κινεῖται τὸ
δὲ κινεῖ, τούτων δ' οὐθὲν ὑπάρχει πρὸς ἄλληλα τοῖς τυχοῦσιν.

§ 23 οἱ δὲ μόνον ἐπιχειροῦσι λέγειν ποῖόν τι ἡ ψυχὴ, περὶ δὲ τοῦ 20
δεξομένου σώματος οὐθὲν ἔτι προσδιορίζουσιν, ὥσπερ ἐνδεχό-
μενον κατὰ τοὺς Πυθαγορικοὺς μύθους τὴν τυχοῦσαν ψυχὴν εἰς
τὸ τυχὸν ἐνδύεσθαι σῶμα· δοκεῖ γὰρ ἕκαστον ἴδιον ἔχειν
εἶδος καὶ μορφήν. παραπλήσιον δὲ λέγουσιν ὥσπερ εἴ τις
φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι· δεῖ γὰρ τὴν μὲν 25
τέχνην χρῆσθαι τοῖς ὀργάνοις, τὴν δὲ ψυχὴν τῷ σώματι.

§ 1 IV. Καὶ ἄλλη δέ τις δόξα παραδέδοται περὶ ψυχῆς,
πιθανὴ μὲν πολλοῖς οὐδεμιᾶς ἥττον τῶν λεγομένων, λόγους
δ' ὥσπερ εὐθύνας δεδωκυῖα καὶ τοῖς ἐν κοινῷ γινομένοις λό-
γοις· ἀρμονίαν γάρ τινα αὐτὴν λέγουσι· καὶ γὰρ τὴν ἀρμο- 30

16. προσδιορίζαντες S. Philop.

18. ποιεῖ τι τὸ STVWX.

24. καὶ]

σῶμα καὶ E.

28. λόγους] λόγον conj. Tor. || λεγομένοις λόγοις W. Ald.

Philop. 30. αὐτὴν τινες λ. VW.

God however must have made the soul to be moved in this circular fashion for no other reason than that it was better for it to be in movement than to remain at rest, and, further, better to be moved in this manner than in any other. Such an investigation however can be more appropriately discussed in other fields of study, and may be therefore for the present left aside.

There is however one peculiar inconsistency which we may note as marking this and most other psychological theories. They place the soul in the body and attach it to the body without trying in addition to determine the reason why or the condition of the body under which such attachment is produced. This would seem however to be a real question calling for solution: in so far as it is by reason of this communion that the one factor is active the other passive, and that the one sets in motion the other is in motion: and relations of this kind are never found in cases of mere juxtaposition. The thinkers however to whom we are referring attempt to state the nature of the soul only: with regard to the nature of the body which is to receive the soul they determine nothing in particular. And thus, although every body seems to possess a distinctive form and character, they act as if it were possible for *any* soul to clothe itself in *any* body, after the manner of the tales which Pythagoreans tell of transmigration. Their account in fact is much like speaking of the carpenter's art as clothing itself in flutes: the truth being that just as art makes use of its appropriate instruments, so the soul must make use of its fitting body.

CHAPTER IV.

There is still another opinion handed down respecting soul which meets with acceptance at the hands of many no less than any of the views which have been stated, though even in popularly written treatises it has been examined and brought, as it were, to account for its assumptions. The soul is by the doctrine in question regarded as a harmony of some sort. A

νίαν κρᾶσιν καὶ σύνθεσιν ἐναντίων εἶναι, καὶ τὸ σῶμα συ-
 § 2 κεῖσθαι ἐξ ἐναντίων. καίτοι γε ἡ μὲν ἁρμονία λόγος τίς ἐστι
 τῶν μιχθέντων ἢ σύνθεσις, τὴν δὲ ψυχὴν οὐδέτερον οἶόν τ'
 § 3 εἶναι τούτων. ἔτι δὲ τὸ κινεῖν οὐκ ἔστιν ἁρμονίας, ψυχῇ δὲ
 § 4 πάντες ἀπονέμουσι τοῦτο μάλισθ' ὥς εἰπεῖν. ἁρμόζει δὲ μάλ- 408^a
 λον καθ' ὑγιείας λέγειν ἁρμονίαν, καὶ ὅλως τῶν σωματι-
 κῶν ἀρετῶν, ἢ κατὰ ψυχῆς. φανερώτατον δ' εἴ τις ἀπο-
 διδόναι πειραθείη τὰ πάθη καὶ τὰ ἔργα τῆς ψυχῆς ἁρμο-
 § 5 νία τινί· χαλεπὸν γὰρ ἐφαρμόζειν. ἔτι δ' εἰ λέγομεν τὴν 5
 ἁρμονίαν εἰς δύο ἀποβλέποντες, κυριώτατα μὲν τῶν μεγε-
 θῶν ἐν τοῖς ἔχουσι κίνησιν καὶ θέσιν τὴν σύνθεσιν αὐτῶν, ἐπει-
 δὴν οὕτω συναρμόζωσιν ὥστε μηδὲν συγγενὲς παραδέχεσθαι,
 ἐντεῦθεν δὲ καὶ τὸν τῶν μεμιγμένων λόγον, οὐδετέρως μὲν οὖν
 εὐλογον· ἡ δὲ σύνθεσις τῶν τοῦ σώματος μερῶν λίαν εὐεξέ- 10
 ταστος· πολλάί τε γὰρ αἱ συνθέσεις τῶν μερῶν καὶ πολλα-
 χῶς· τίνος οὖν ἢ πῶς ὑπολαβεῖν τὸν νοῦν χρὴ σύνθεσιν εἶναι,
 § 6 ἢ καὶ τὸ αἰσθητικὸν ἢ ὀρεκτικόν; ὁμοίως δὲ ἄτοπον καὶ τὸν
 λόγον τῆς μίξεως εἶναι τὴν ψυχὴν· οὐ γὰρ τὸν αὐτὸν ἔχει
 λόγον ἢ μίξις τῶν στοιχείων καθ' ἣν σὰρξ καὶ καθ' ἣν ὀστοῦν. 15
 συμβήσεται οὖν πολλὰς τε ψυχὰς ἔχειν καὶ κατὰ πᾶν τὸ
 σῶμα, εἴπερ πάντα μὲν ἐκ τῶν στοιχείων μεμιγμένων, ὁ δὲ
 § 7 τῆς μίξεως λόγος ἁρμονία καὶ ψυχή. ἀπαιτήσκει δ' ἂν τις
 τοῦτό γε καὶ παρ' Ἑμπεδοκλέους· ἕκαστον γὰρ αὐτῶν λόγῳ
 τινί φησιν εἶναι· πότερον οὖν ὁ λόγος ἐστὶν ἡ ψυχή, ἢ μάλ- 20

32. γε om. E. Tor.

408^a 1. ἀπονέμουσιν ἅπαντες τοῦτο STVW.

φανερωτάτων E.

5. λέγομεν UW. Trend.

12. χρὴ τὸν νοῦν STVW.

3.

13.

τὸν] τὸ VX, τὸ τὸν λ. Bz.

harmony, it is argued, is a blending and conjunction of opposites: and it is out of opposites that the body is composed.

Harmony however it may be objected (1) is either a certain ratio of composition or an adjustment of bodies: and the soul cannot be described by either of these terms. Besides (2) movement is not a property which can be predicated of a harmony: while it is by almost all thinkers attributed to the soul. Harmony again (3) is a term which may be applied to health and to the bodily excellencies in general with much more propriety than to the soul: as would be (4) very evident if we should attempt to explain the feelings and functions of the soul by resolving them into some special harmony: so difficult is it to make them correspond. It may be added further (5) that in speaking of a harmony we do so with reference to two points. In the strictest sense, the term denotes so closely fitting an *adjustment* on the part of bodies possessed of movement and position as lets in nothing homogeneous; and hence secondly it is applied also to the *ratio* which holds between things that are compounded.

In neither of these two senses can the soul be reasonably regarded as a harmony. The *adjustment* of the parts of the body is very easy to be discovered: there are many such adjustments and they can be effected in a great variety of manners. Of what part then, we may ask, are we to suppose the reason is an adjustment or how are we to suppose it to be effected? or, again, what adjustment is it that forms the sentient or the appetitive nature? It is equally absurd to regard the soul as the expression of the *ratio* of the *composition*. The composition of the elements forming flesh is subject to a different ratio or proportion from that which forms bone; and if the soul be merely this ratio of composition then it will follow that we have many souls spread over the whole body, because all the parts of the body are formed from elements combined together and *ex hypothesi* it is the ratio regulating their composition which constitutes a harmony and therefore soul. This too suggests a question we might put to Empedocles relatively to his statement that each of the bodily parts is determined by a certain ratio. Whether, we might ask, is the soul this ratio, or is it

- λον ἕτερόν τι οὔσα ἐγγίνεται τοῖς μέλεσιν; ἔτι δὲ πότερον ἡ
 φιλία τῆς τυχούσης αἰτία μίξεως ἢ τῆς κατὰ τὸν λόγον; καὶ
 αὕτη πότερον ὁ λόγος ἐστὶν ἢ παρὰ τὸν λόγον ἕτερόν τι;
- § 8 ταῦτα μὲν οὖν ἔχει τοιαύτας ἀπορίας· εἰ δ' ἐστὶν ἕτερον ἡ
 ψυχὴ τῆς μίξεως, τί δὴ ποτε ἅμα τῷ σαρκὶ εἶναι ἀναι-²⁵
 ρεῖται καὶ τῷ τοῖς ἄλλοις μορίοις τοῦ ζώου; πρὸς δὲ τούτοις
 εἴπερ μὴ ἕκαστον τῶν μορίων ψυχὴν ἔχει, εἰ μὴ ἐστὶν ἡ
 ψυχὴ ὁ λόγος τῆς μίξεως, τί ἐστὶν ὃ φθείρεται τῆς ψυχῆς
- § 9 ἀπολειπούσης; ὅτι μὲν οὖν οὐθ' ἁρμονίαν οἶόν τ' εἶναι τὴν
 ψυχὴν οὔτε κύκλῳ περιφέρεσθαι, δῆλον ἐκ τῶν εἰρημένων.³⁰
 κατὰ συμβεβηκὸς δὲ κινεῖσθαι, καθάπερ εἴπομεν, ἔστι καὶ
 κινεῖν ἑαυτήν, οἷον κινεῖσθαι μὲν ἐν ᾧ ἐστί, τοῦτο δὲ κινεῖσθαι
 ὑπὸ τῆς ψυχῆς· ἄλλως δ' οὐχ οἶόν τε κινεῖσθαι κατὰ τόπον
- § 10 αὐτήν. εὐλογώτερον δ' ἀπορήσειεν ἂν τις περὶ αὐτῆς ὡς
 κινουμένης, εἰς τὰ τοιαῦτα ἀποβλέψας. φαμὲν γὰρ τὴν ψυ-^{408b}
 χὴν λυπεῖσθαι χαίρειν, θαρρεῖν φοβεῖσθαι, ἔτι δὲ ὀργί-
 ζεσθαί τε καὶ αἰσθάνεσθαι καὶ διανοεῖσθαι· ταῦτα δὲ πάντα
 κινήσεις εἶναι δοκοῦσιν. ὅθεν οἰηθεῖη τις ἂν αὐτὴν κινεῖσθαι.
- § 11 τὸ δ' οὐκ ἐστὶν ἀναγκαῖον. εἰ γὰρ καὶ ὅτι μάλιστα τὸ λυπεῖ-⁵
 σθαι ἢ χαίρειν ἢ διανοεῖσθαι κινήσεις εἰσὶ, καὶ ἕκαστον κι-
 νεῖσθαι τούτων, τὸ δὲ κινεῖσθαι ἐστὶν ὑπὸ τῆς ψυχῆς, οἷον τὸ
 ὀργίζεσθαι ἢ φοβεῖσθαι τῷ τὴν καρδίαν ὥδι κινεῖσθαι, τὸ
 δὲ διανοεῖσθαι ἢ τοιοῦτον ἴσως ἢ ἕτερόν τι· (τούτων δὲ συμ-
 βαίνει τὰ μὲν κατὰ φοράν τινῶν κινουμένων, τὰ δὲ κατ'¹⁰
- § 12 ἀλλοίωσιν· ποῖα δὲ καὶ πῶς, ἕτερός ἐστι λόγος.) τὸ δὲ λέγειν

21. μέρεσιν W. pr. E. Tor. μυχθεῖσιν X Philop. Soph. 26. τὸ τοῖς T. Simpl.
 Philop., Alex. Aphr. ap. Phil., τῷ τοῖς Trend. Tor. Bekk. 29. ἀπολειπούσης
 TVX. 408^b 8. τῷ τὴν κ.] τὸ τ. κ. VBz. || κινεῖσθαι ἢ οἰδεῖν, τὸ V.
 9. τοιοῦτον] τὸ τοῦτο Bz. τῷ τοῦτο Tor. || ἴσως ἢ] ἢ ἴσως SV.

something else which is implanted in the members? And further does the principle of 'love' give rise to any composition whatsoever or only to that standing in a certain ratio; and if the latter, is this love the ratio itself or is it something else outside the ratio?

Difficulties then of this kind may be raised upon the supposition that soul is a harmony. At the same time, if the soul be something different from the composition of the bodily parts, the question rises, how comes it that the soul is annihilated when the flesh and the other parts of the animal organism are destroyed—and further, if, after giving up the view which regards soul as the ratio of the composition, it can no longer be maintained that each of the parts of the body possesses a soul, it is difficult to see what it is that is destroyed when the soul has taken its departure.

It is evident then from what has been said that the soul cannot be a harmony: and further that it cannot have a circular movement. It may however, as we have said, be moved and move itself incidentally, so far as that in which it is contained may be moved, and this itself moved by the soul: otherwise, it is impossible for it to exhibit local movement.

A more plausible standpoint, however, from which to raise doubts in support of the movement of the soul might be found in an appeal to the fact that the soul is (as we say) pained, takes joy, shews confidence, is exposed to fear, and further is angered and perceives and pursues inferences—all such operations being viewed as processes of movement. Hence then it might be supposed the soul itself is moved. This, however, need not be the case. It may be indeed that feeling pain or rejoicing or exercising thought are motions in the fullest sense, and each of them may be identical with being moved. Further, too, this movement may be effected by the soul—for example, feeling anger or fear may be the result of such and such a movement of the heart, and inference is either a movement of this sort or something else. Some of these phenomena again may result from local movements, others from qualitative changes in a manner of which the details must be left for further inquiry.

ὀργίζεσθαι τὴν ψυχὴν ὅμοιον καὶ εἴ τις λέγοι τὴν ψυ-
 χὴν ὑφαίνειν ἢ οἰκοδομεῖν· βέλτιον γὰρ ἴσως μὴ λέγειν τὴν
 ψυχὴν ἐλεεῖν ἢ μανθάνειν ἢ διανοεῖσθαι, ἀλλὰ τὸν ἀνθρω-
 πον τῇ ψυχῇ· τοῦτο δὲ μὴ ὡς ἐν ἐκείνῃ τῆς κινήσεως οὔσης, 15
 ἀλλ' ὅτε μὲν μέχρι ἐκείνης, ὅτε δ' ἀπ' ἐκείνης, οἶον ἢ μὲν
 αἰσθησις ἀπὸ τωνδὶ, ἢ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν
 § 13 τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς. ὁ δὲ νοῦς ἔοικεν ἐγγίνεσθαι
 οὐσία τις οὔσα, καὶ οὐ φθείρεσθαι. μάλιστα γὰρ ἐφθείρετ' ἀν-
 ὑπὸ τῆς ἐν τῷ γήρα ἀμαυρώσεως· νῦν δ' ἴσως ὅπερ ἐπὶ 20
 τῶν αἰσθητηρίων συμβαίνει· εἰ γὰρ λάβοι ὁ πρεσβύτης ὄμμα
 τοιονδί, βλέποι ἀν ὥσπερ καὶ ὁ νέος. ὥστε τὸ γήρας οὐ
 τῷ τὴν ψυχὴν τι πεπονθῆναι, ἀλλ' ἐν ᾧ, καθάπερ ἐν μέ-
 § 14 θαις καὶ νόσοις· καὶ τὸ νοεῖν δὴ καὶ τὸ θεωρεῖν μαραίνεται
 ἄλλου τινὸς ἔσω φθειρομένου, αὐτὸ δὲ ἀπαθές ἐστιν. τὸ δὲ δια- 25
 νοεῖσθαι καὶ φιλεῖν ἢ μισεῖν οὐκ ἔστιν ἐκείνου πάθη, ἀλλὰ
 τουδὶ τοῦ ἔχοντος ἐκείνο, ἢ ἐκείνο ἔχει. διὸ καὶ τούτου φθειρο-
 μένου οὔτε μνημονεύει οὔτε φιλεῖ· οὐ γὰρ ἐκείνου ἦν, ἀλλὰ τοῦ
 κοινού, ὃ ἀπόλωλεν· ὁ δὲ νοῦς ἴσως θειότερόν τι καὶ ἀπαθές
 § 15 ἐστιν. ὅτι μὲν οὖν οὐχ οἷόν τε κινεῖσθαι τὴν ψυχὴν, φανερόν 30
 ἐκ τούτων· εἰ δ' ὅλως μὴ κινεῖται, δῆλον ὡς οὐδ' ὑφ' ἐαυτῆς.

12. λέγη T. 15. οὔσης om. E. 16. μέχρις TVWX. 19. οὔσα om. E.

20. νυνὶ δ' ὥσπερ STVWX. 22. καὶ om. X. 25. ἀλλ' οὐ S. || ἔσω] ἐν ᾧ Bz.

Although, however, all this may be true, we must add that to speak of the *soul* as feeling angry is no more appropriate than to speak of the soul as weaving or building. Perhaps, in fact, it is better to say not that the soul pities or learns or infers, but rather that the man does so through his soul. Nor in saying that the man carries on these operations through his soul, must we take this to mean that the movement is in the soul, but simply that the movement sometimes advances towards soul, sometimes starts from it. Sense perception, for example, starts from such and such individual things [and advances forward to the soul which reads them]: recollection on the other hand starts from the soul and terminates in the movements or impressions which are stored up in the organs of sense. It must be remembered, too, that reason as a self-contained reality would seem to be implanted within the soul and would not seem to be destroyed with the dissolution of the body. For, if it could be so destroyed, it would be so chiefly in consequence of the decay following in old age, whereas, as facts really stand, the case is perhaps parallel to that of the organs of sense, where we should allow that the old man, if he were to receive an eye fitted for vision, would see as well as the young man. Thus old age is the result not of any affection sustained by the soul but by the medium in which it is contained, just as is also the case in drunkenness and in disease; and thinking and reflection are weakened on the destruction of something internal, but as for thought itself, it is unaffected by such accidents. So also the processes of discursive understanding as also loving and hating are not affections of the reason but of the organism which possesses it, so far as it possesses it. And hence it is that when this vehicle is destroyed, neither recollection nor love are longer possible, because these functions and feelings were not attributes of the reason but of that combination of soul and body which has perished. Reason, however, is in all probability of a diviner character, and not subject to impressions from without.

It is evident then from these considerations that the soul cannot be in motion: and if motion is a predicate of it in no sense whatever, it evidently would not be moved either by itself.

- § 16 πολὺ δὲ τῶν εἰρημένων ἀλογώτατον τὸ λέγειν ἀριθμὸν εἶναι τὴν ψυχὴν κινουμένην ἑαυτὸν· ὑπάρχει γὰρ αὐτοῖς ἀδύνατα· πρῶτα μὲν τὰ ἐκ τοῦ κινεῖσθαι συμβαίνοντα, ἰδίᾳ δ' ἐκ τοῦ λέγειν αὐτὴν ἀριθμὸν· πῶς γὰρ χρή νοῆσαι μονάδα κινου- 409^a μένην, καὶ ὑπὸ τίνος, καὶ πῶς, ἀμερῇ καὶ ἀδιάφορον οὐ-
- § 17 σαν; εἰ γὰρ ἐστὶ κινητικὴ καὶ κινητή, διαφέρειν δεῖ. ἔτι δ' ἐπεὶ φασι κινηθεῖσαν γραμμὴν ἐπίπεδον ποιεῖν, στιγμὴν δὲ γραμμὴν, καὶ αἱ τῶν μονάδων κινήσεις γραμμαὶ ἔσονται· 5 ἢ γὰρ στιγμή μονάς ἐστὶ θέσιν ἔχουσα· ὁ δ' ἀριθμὸς τῆς
- § 18 ψυχῆς ἤδη πού ἐστι καὶ θέσιν ἔχει. ἔτι δ' ἀριθμοῦ μὲν ἔαν ἀφέλῃ τις ἀριθμὸν ἢ μονάδα, λείπεται ἄλλος ἀριθμός· τὰ δὲ φυτὰ καὶ τῶν ζώων πολλὰ διαιρούμενα ζῇ, καὶ δο-
- § 19 κεῖ τὴν αὐτὴν ψυχὴν ἔχειν τῷ εἶδει. δόξειε δ' ἂν οὐθεν δια- 10 φέρειν μονάδας λέγειν ἢ σώματα μικρά· καὶ γὰρ ἐκ τῶν Δημοκρίτου σφαιρίων ἔαν γένωνται στιγμαί, μόνον δὲ μένη τὸ ποσόν, ἔσται τι ἐν αὐτῷ τὸ μὲν κινουὺν τὸ δὲ κινούμενον, ὥσπερ ἐν τῷ συνεχεῖ· οὐ γὰρ διὰ τὸ μεγέθει διαφέρειν ἢ μικρότητι συμβαίνει τὸ λεχθέν, ἀλλ' ὅτι ποσόν. διὸ ἀναγ- 15 καῖον εἶναί τι τὸ κινήσον τὰς μονάδας. εἰ δ' ἐν τῷ ζῳῷ τὸ κινουὺν ἢ ψυχὴ, καὶ ἐν τῷ ἀριθμῷ, ὥστε οὐ τὸ κινουὺν καὶ τὸ κινούμενον ἢ ψυχὴ, ἀλλὰ τὸ κινουὺν μόνον. ἐνδέχεται δὲ δὴ πῶς μονάδα ταύτην εἶναι; δεῖ γὰρ ὑπάρχειν τινὰ αὐτῇ
- § 20 διαφορὰν πρὸς τὰς ἄλλας· στιγμῆς δὲ μοναδικῆς τίς ἂν εἴη 20 διαφορὰ πλὴν θέσις; εἰ μὲν οὖν εἰσὶν ἕτεραι αἱ ἐν τῷ σώματι μονάδες καὶ αἱ στιγμαί, ἐν τῷ αὐτῷ ἔσονται αἱ μονάδες·

34. ἴδια E. Simp. Phil. Soph.
συνεχεῖ] μεγέθει TWy.

409^a 10. οὐθέν] ὁμοίως μηδὲν VW.
16. κινήσαν TW.

Of all psychological theories the most unreasonable is that which describes soul as a number which sets itself in motion. Such a view involves double impossibilities—firstly those resulting from its movement and more particularly those which spring from speaking of it as a number. In what manner for instance, (1) are we to conceive a unit as moved—and by what means and under what conditions is it to be effected—seeing that it is devoid of parts and contains no differences, while if it be at once fitted to produce movement and also subject to movement it must exhibit points of difference? (2) Further, it is a doctrine of the schools that the line when moved produces a superficies, and the point when moved creates a line. Thus then since the point is merely a unit or monad possessing such and such a situation, and the number of the soul is no doubt somewhere and possesses a certain position, it follows that the movements of monads or units will be lines also [not souls or animate existences]. Besides (3) if we take away a number or unit from a number, it is *another* and a different number that is left: whereas plants and many animals live after they have been divided and are held to possess specifically the *same* and not a different soul. Besides (4) there would appear to be no difference between speaking of monads or of infinitely small particles: if points be formed out of the globules of Democritus and quantity alone remain, still there will be in this as in everything continuous, something moving on the one hand, something moved on the other; as this law is the result not of any difference in size but rests simply on the ground that the one object as the other is a quantity. Thus then there must be something which will set the monads in motion. But if it be soul which produces movement in the animal, it will be soul which does so also in the number: so that the soul is not at once the moving and the moved, but the moving factor only. How then (5) can soul, being thus the moving factor only, be a monad? Supposing it to be a monad, it must be different from other monads: but what difference can there be between one monadic point and another except position? Thus then (6) if, on the one hand, the monads as also the points of the body are different from one another, still the monads will be in the same space as the latter—because

- καθέξει γὰρ χώραν στιγμῆς. καίτοι τί κωλύει ἐν τῷ αὐτῷ εἶναι, εἰ δύο, καὶ ἀπείρους; ὦν γὰρ ὁ τόπος ἀδιαίρετος, § 21 καὶ αὐτά. εἰ δ' αἱ ἐν τῷ σώματι στιγμαὶ ὁ ἀριθμὸς ὁ τῆς 25 ψυχῆς, ἢ εἰ ὁ ἐκ τῶν ἐν τῷ σώματι στιγμῶν ἀριθμὸς ἢ ψυχῇ, διὰ τί οὐ πάντα ψυχὴν ἔχουσι τὰ σώματα; στιγμαὶ § 22 γὰρ ἐν ᾧ πασι δοκοῦσιν εἶναι καὶ ἄπειροι. ἔτι δὲ πῶς οἷόν τε χωρίζεσθαι τὰς ψυχὰς καὶ ἀπολύεσθαι τῶν σωμάτων, εἴ γε μὴ διαιροῦνται αἱ γραμμαὶ εἰς στιγμάς; 30
- § 1 V. Συμβαίνει δέ, καθάπερ εἵπομεν, τῇ μὲν ταὐτὸ λέγειν τοῖς σώματι λεπτομερὲς αὐτὴν τιθεῖσι, τῇ δ' ὥσπερ Δημόκριτος κινεῖσθαι φησιν ὑπὸ τῆς ψυχῆς, ἴδιον τὸ ἄτοπον· 409^b εἵπερ γὰρ ἔστιν ἢ ψυχὴ ἐν παντὶ τῷ αἰσθανομένῳ σώματι, ἀναγκαῖον ἐν τῷ αὐτῷ δύο εἶναι σώματα, εἰ σῶμά τι ἢ ψυχῇ· τοῖς δ' ἀριθμὸν λέγουσιν, ἐν τῇ μιᾷ στιγμῇ πολλὰς στιγμάς ἢ πᾶν σῶμα ψυχὴν ἔχειν, εἰ μὴ διαφέρων 5 τις ἀριθμὸς ἐγγίνεται καὶ ἄλλος τις τῶν ὑπαρχουσῶν ἐν § 2 τῷ σώματι στιγμῶν. συμβαίνει τε κινεῖσθαι τὸ ζῶον ὑπὸ τοῦ ἀριθμοῦ, καθάπερ καὶ Δημόκριτον ἔφαμεν αὐτὸ κινεῖν· τί γὰρ διαφέρει σφαίρας λέγειν σμικρὰς ἢ μονάδας μεγά- 10 λας, ἢ ὅλως μονάδας φερομένας; ἀμφοτέρως γὰρ ἀναγ- § 3 καῖον κινεῖν τὸ ζῶον τῷ κινεῖσθαι ταύτας. τοῖς δὲ συμπλέ- ξασιν εἰς τὸ αὐτὸ κίνησιν καὶ ἀριθμὸν ταῦτά τε συμβαίνει καὶ πολλὰ ἕτερα τοιαῦτα· οὐ γὰρ μόνον ὅρισμὸν ψυχῆς ἀδύνατον τοιοῦτον εἶναι, ἀλλὰ καὶ συμβεβηκός. δῆλον δ' εἴ

23. κωλύσει VW. Trend.

24. ὦν γὰρ] ὦν δὲ conj. Sus.

29. ψυχ.]

στιγμάς VWX Tor.

409^b 7. τοῖς σώμασιν E. Tor.

11. ταύτας Tor.

Bekk. E., αὐτάς STUVWX Trend.

each monad will occupy the room of a point. But if two can be in the same place, what is there to prevent an endless number from being also in the same place? This, however, is absurd; those objects of which the space is indivisible are themselves also indivisible. If, on the other hand, the points in the body constitute the number of the soul, or if the soul be the number arising from the points in the body, why is it that all bodies do not possess a soul: seeing that there seems to be points in all of them even innumerable? And further we may ask, (7) how is it possible for souls to be separated and released from the body, considering at any rate that lines cannot be resolved into their points?

CHAPTER V.

There are then, as we have said, two consequences of this doctrine of the soul. On the one hand its supporters are brought to maintain a view identical with those who regard soul as some subtle body, while, on the other hand, they are landed in the peculiar absurdity which Democritus fell into in explaining how the body is moved by the soul. For if there be a soul in every sentient body, there must be two bodies within the same body, supposing the mind is a body of some sort or other: those, on the other hand, who say it is a number must either allow many points to exist within one point or else allow every body to possess a soul, unless the number be introduced as differing from other numbers and from the points existing in the body. It follows also that the living creature is moved by number much in the same way as we said Democritus moved it. For what difference does it make whether we speak of the movement of small globes or of large monads or of monads generally in movement? In either case the movement of the animal must be the result of the moving of these elements.

These and many other like consequences meet those who have combined together movement and number into one conception. Such a conception can not only not be the definition of soul: it cannot even be regarded as a concomitant attribute

τις ἐπιχειρήσειεν ἐκ τοῦ λόγου τούτου τὰ πάθη καὶ τὰ ἔργα ¹⁵
 τῆς ψυχῆς ἀποδιδόναι, οἷον λογισμούς, αἰσθήσεις, ἡδονάς,
 λύπας, ὅσα ἄλλα τοιαῦτα· ὥσπερ γὰρ εἶπομεν πρότερον,
 § 4 οὐδὲ μαντεύσασθαι ῥάδιον ἐξ αὐτῶν. τριῶν δὲ τρόπων παρα-
 δεδομένων καθ' οὓς ὀρίζονται τὴν ψυχὴν, οἱ μὲν τὸ κινήτι-
 κώτατον ἀπεφῆναντο τῷ κινεῖν ἑαυτό, οἱ δὲ σῶμα τὸ λεπ- ²⁰
 τομερέστατον ἢ τὸ ἀσωματώτατον τῶν ἄλλων. ταῦτα δὲ
 τίνας ἀπορίας τε καὶ ὑπεναντιώσεις ἔχει, διεληλύθαμεν
 § 5 σχεδόν. λείπεται δ' ἐπισκέψασθαι πῶς λέγεται τὸ ἐκ τῶν
 στοιχείων αὐτὴν εἶναι. λέγουσι μὲν γάρ, ἵν' αἰσθάνηταί τε
 τῶν ὄντων καὶ ἕκαστον γνωρίζῃ, ἀναγκαῖον δὲ συμβαίνειν ²⁵
 πολλὰ καὶ ἀδύνατα τῷ λόγῳ. τίθενται γὰρ γνωρίζειν τῷ
 ὁμοίῳ τὸ ὅμοιον, ὥσπερ ἂν εἰ τὴν ψυχὴν τὰ πράγματα
 τιθέντες. οὐκ ἔστι δὲ μόνα ταῦτα, πολλὰ δὲ καὶ ἕτερα,
 § 6 μᾶλλον δ' ἴσως ἄπειρα τὸν ἀριθμὸν τὰ ἐκ τούτων. ἐξ ὧν
 μὲν οὖν ἐστὶν ἕκαστον τούτων, ἔστω γινώσκειν τὴν ψυχὴν καὶ ³⁰
 αἰσθάνεσθαι· ἀλλὰ τὸ σύνολον τίτι γνωριεῖ ἢ αἰσθήσεται,
 οἷον τί θεὸς ἢ ἄνθρωπος ἢ σὰρξ ἢ ὁστοῦν; ὁμοίως δὲ καὶ
 ὁτιοῦν ἄλλο τῶν συνθέτων· οὐ γὰρ ὅπως οὖν ἔχοντα τὰ στοι- ^{410^a}
 χεῖα τούτων ἕκαστον, ἀλλὰ λόγῳ τινὶ καὶ συνθέσει, καθάπερ
 φησὶ καὶ Ἐμπεδοκλῆς τὸ ὁστοῦν.

ἢ δὲ χθὼν ἐπίηρος ἐν εὐστέροισι χοάνοισιν
 τῷ δύο τῶν ὀκτὼ μερέων λάχε νῆστιδος αἷγλης, 5
 τέσσαρα δ' Ἡφαίστοιο· τὰ δ' ὁστέα λεύκ' ἐγένοντο.

οὐδὲν οὖν ὄφελος εἶναι τὰ στοιχεῖα ἐν τῇ ψυχῇ, εἰ μὴ καὶ οἱ
 λόγοι ἐνέσονται καὶ ἡ σύνθεσις· γνωριεῖ γὰρ ἕκαστον τὸ
 ὅμοιον, τὸ δ' ὁστοῦν ἢ τὸν ἄνθρωπον οὐθέν, εἰ μὴ καὶ ταῦτ'

18. μαντεύεσθαι STUVW. 24. αἰσθεται TW. 31. τίτι—ἢ]
 οὐ—οὐδ' WX. 410^a 1. ἄλλο ὁτιοῦν Tor. Bekk. E. ὁτιοῦν ἄλλο STUVWX.
 5. τῷ] τῶν STUX, τὰ E. Trend., τῷ Tor. conj., τὰς W. || μοιράων UVW. 6.
 λευκὰ γέγοντο ETVW Tor. 7. ἐνέειναι E. Tor.

of it. This is evident when we attempt to explain by reference to such a notion the feelings and functions of the soul, as for instance, its ratiocinations, perceptions, pleasures, pains, &c.: as we said before, it is not even easy by the help of the imagination to conjecture from it what would be their character.

Thus then we have gone through the difficulties and objections which may be raised against two of the three methods of defining soul which have been transmitted to us. Some we have seen have regarded it as the most mobile element because it possesses the power of moving itself: others have viewed it as a body of the subtlest and the finest parts or as the most incorporeal of all other bodies. It remains to examine the sense in which it is said to be compounded of the different elements.

The object of this conception of the soul is, say its supporters, to explain how it can perceive the objects of existence and gain knowledge of each individual thing. A number of impossibilities, however, necessarily follow on this doctrine. It assumes, to begin with, that like is known by like, thus identifying, as it were, the soul with the things it knows. Our objects of knowledge however include not only elements but many other things besides, and, what is perhaps still more worthy of notice, the things compounded of these elements are unlimited in number. Now granting that the soul knows and perceives in the way described the elements from which each of these is formed, still, we may ask, by which will it know or perceive the concrete whole, as for example what is God or man or flesh or bone, and similarly any composite object? The different elements do not seem to compose each of these objects in any way whatever but according to a certain ratio and adjustment, as Empedocles himself says with respect to bone.

Then did the earth the productive within the huge furnace primeval
Gain out of eight parts two of the liquid transparently crystal;
Four parts came from the fire; and the bones white came to existence.

Obviously then there is no good in the elements being present in the soul, unless the ratios and the different adaptations be present also; for although each element may recognise its similar, still it will acquire no knowledge of a bone or of a human being,

- ἐνέσται. τοῦτο δ' ὅτι ἀδύνατον, οὐθὲν δεῖ λέγειν· τίς γὰρ ἂν ¹⁰
 ἀπορήσειεν εἰ ἔνεστιν ἐν τῇ ψυχῇ λίθος ἢ ἄνθρωπος ; ὁμοίως
 δὲ καὶ τὸ ἀγαθὸν καὶ τὸ μὴ ἀγαθόν. τὸν αὐτὸν δὲ τρόπον
 § 7 καὶ περὶ τῶν ἄλλων. ἔτι δὲ πολλαχῶς λεγομένου τοῦ ὄντος
 (σημαίνει γὰρ τὸ μὲν τόδε τι, τὸ δὲ ποσὸν ἢ ποιὸν ἢ καί
 τινα ἄλλην τῶν διαιρεθεισῶν κατηγοριῶν) πότερον ἐξ ἀπάν- ¹⁵
 των ἔσται ἡ ψυχὴ ἢ οὐ ; ἀλλ' οὐ δοκεῖ κοινὰ πάντων εἶναι
 στοιχεῖα. ἂρ' οὖν ὅσα τῶν οὐσιῶν ἐκ τούτων μόνον ; πῶς οὖν
 γινώσκει καὶ τῶν ἄλλων ἕκαστον ; ἢ φήσουσιν ἕκαστον γένους
 εἶναι στοιχεῖα καὶ ἀρχὰς ἰδίας, ἐξ ὧν τὴν ψυχὴν συνεστά-
 ναι ; ἔσται ἄρα ποσὸν καὶ ποιὸν καὶ οὐσία. ἀλλ' ἀδύνατον ἐκ ²⁰
 τῶν τοῦ ποσοῦ στοιχείων οὐσίαν εἶναι καὶ μὴ ποσόν. τοῖς δὴ
 λέγουσιν ἐκ πάντων ταῦτά τε καὶ τοιαῦθ' ἕτερα συμβαίνει.
 § 8 ἄτοπον δὲ καὶ τὸ φάναι μὲν ἀπαθὲς εἶναι τὸ ὅμοιον ὑπὸ τοῦ
 ὁμοίου, αἰσθάνεσθαι δὲ τὸ ὅμοιον τοῦ ὁμοίου καὶ γινώσκειν
 τῷ ὁμοίῳ τὸ ὅμοιον. τὸ δ' αἰσθάνεσθαι πάσχειν τι καὶ κι- ²⁵
 νεῖσθαι τιθέασιν· ὁμοίως δὲ καὶ τὸ νοεῖν τε καὶ γινώσκειν.
 § 9 πολλὰς δ' ἀπορίας καὶ δυσχερείας ἔχοντος τοῦ λέγειν, κα-
 θάπερ Ἐμπεδοκλῆς, ὥς τοῖς σωματικοῖς στοιχείοις ἕκαστα
 γνωρίζεται καὶ πρὸς τὸ ὅμοιον, μαρτυρεῖ τὸ νῦν λεχθέν·
 ὅσα γὰρ ἔνεστιν ἐν τοῖς τῶν ζώων σώμασιν ἀπλῶς γῆς, οἶον ³⁰
 ὅστα νεῦρα τρίχες, οὐθενὸς αἰσθάνεσθαι δοκεῖ, ὥστ' οὐδὲ τῶν ^{410^b}
 § 10 ὁμοίων. καίτοι προσῆκεν. ἔτι δ' ἐκάστη τῶν ἀρχῶν ἄγνοια

17. μόνων STUVX.

20. ἀλλ' ἀδύνατον...καὶ μὴ ποσὸν ante ἔσται—οὐσία
 Trend.

29. πρὸς τὸ ὅμοιον] τῷ ὁμοίῳ τὸ ὅμοιον Tor. || λεχθέν] λεχθησόμενον T

30. ἔστιν EWX Tor.

unless these be present within it also. It need hardly be said however that this is quite impossible: who could question whether such an object as a stone or man is present in the soul? And the same thing may be said of the good and not-good, as also in other cases.

Being, it may be objected further, is a term used in various senses: it indicates now concrete substance, now quantity or quality, or it may be some other of the categories as they are distinguished. Is soul then, it may be asked, to be composed of all the categories or not? To the former supposition it may be at once replied that there are no elements which are common to all the categories. Does then, we may ask, the soul consist merely of the elements that fall under the category of substance? In that case, how does it come to have knowledge of each also of the other categories? Will it be said that every category of being has its own elements and appropriate principles and that the soul consists of these? The result then will be that the soul will have to be a quantity and quality as well as a substance. But out of the elements of quantity it is impossible that a substance should be formed: only a quantity can arise from elements of quantity. Such are the difficulties as well as others of a similar character involved in holding that the soul consists of all the elements.

It is a further inconsistency in the supporters of this doctrine that, while asserting that like perceives like and that we know like by like, they maintain that like is *unaffected* by like, and at the same time explain perception as a kind of affection and of being moved, and treat thinking and cognition in a similar fashion. There are in fact many difficulties and perplexities involved in saying with Empedocles that everything is known through the corporeal elements and that the similar is apprehended by the similar—as is especially attested by the fact that all those parts within the bodies of animals, which are composed of earth simply—as for example bones, sinews, hairs—are held to perceive nothing and thus not even those things which are like them—although according to the theory they should.

It may be added further that each one of the elemental

- πλείων ἢ σύνεσις ὑπάρξει· γνώσεται μὲν γὰρ ἐν ἑκάστον, πολλὰ δ' ἀγνοήσει· πάντα γὰρ τᾶλλα. συμβαίνει δ' Ἐμπεδοκλεῖ γε καὶ ἀφρονέστατον εἶναι τὸν θεόν· μόνος γὰρ τῶν 5 στοιχείων ἐν οὐ γνωριεῖ, τὸ νεῖκος, τὰ δὲ θνητὰ πάντα· ἐκ
- § 11 πάντων γὰρ ἑκάστον. ὅλως τε διὰ τίν' αἰτίαν οὐχ ἅπαντα ψυχὴν ἔχει τὰ ὄντα, ἐπειδὴ πᾶν ἢ στοιχεῖον ἢ ἐκ στοιχείου ἑνὸς ἢ πλειόνων ἢ πάντων; ἀναγκαῖον γὰρ ἐστὶν ἐν τι γι-
- § 12 νώσκειν ἢ τινὰ ἢ πάντα. ἀπορήσειε δ' ἂν τις καὶ τί ποτ' 10 ἐστὶ τὸ ἐνοποιοῦν αὐτά· ὕλη γὰρ ἔοικε τά γε στοιχεῖα, κυριώτατον δ' ἐκεῖνο τὸ συνέχον ὃ τί ποτ' ἐστίν· τῆς δὲ ψυχῆς εἶναι τι κρείττον καὶ ἄρχον ἀδύνατον· ἀδυνατώτερον δ' ἔτι τοῦ νοῦ· εὐλογον γὰρ τοῦτον εἶναι προγενέστατον καὶ κύριον κατὰ φύσιν· τὰ δὲ στοιχεῖα φασὶ πρῶτα τῶν ὄντων εἶναι. 15
- § 13 πάντες δὲ καὶ οἱ διὰ τὸ γνωρίζειν καὶ αἰσθάνεσθαι τὰ ὄντα τὴν ψυχὴν ἐκ τῶν στοιχείων λέγοντες αὐτήν, καὶ οἱ τὸ κινητικώτατον, οὐ περὶ πάσης λέγουσι ψυχῆς. οὔτε γὰρ τὰ αἰσθανόμενα πάντα κινητικά· φαίνεται γὰρ εἶναι τινα μό- νημα τῶν ζώων κατὰ τόπον. καίτοι δοκεῖ γε ταύτην μόνην 20 τῶν κινήσεων κινεῖν ἢ ψυχὴ τὸ ζῶον. ὁμοίως δὲ καὶ ὅσοι τὸν νοῦν καὶ τὸ αἰσθητικὸν ἐκ τῶν στοιχείων ποιοῦσιν· φαίνεται γὰρ τά τε φυτὰ ζῆν οὐ μετέχοντα φορᾶς οὐδ' αἰσθήσεως,
- § 14 καὶ τῶν ζώων πολλὰ διάνοιαν οὐκ ἔχειν. εἰ δέ τις καὶ ταῦτα

3. πλέον SUVWXY.

6. γνωρίζει E. Tor.

8. ἢ στ.] ἤτοι στ. Tor.

12. δ' pr. E. Tor., γὰρ ceteri.

18. ἀπάσης STUVWXY.

principles will have much more ignorance than understanding: because while each element will know some individual object, it will be ignorant of many; as in fact it will be ignorant of everything else outside this one. Nay in fact Empedocles has to face the conclusion that God is most destitute of understanding: for he alone will have no knowledge of one among the elements—viz. strife, although all things mortal will possess this, because they are each compounded out of all the elements.

There is, besides, a general inconsistency which may be brought against the theory. Why is it on this supposition that *all* objects of existence do not possess a soul? Every one of them is either an element or formed from some one element or from several or all of them; and such objects must necessarily know one thing or some or all.

The question might besides be raised, what is it that brings the elements to unity? The elements themselves resemble mere unformed matter, and it is the synthetic force, whatever it may be, which is most important. Now it is impossible that there should be anything superior to soul or dominating it: and still more impossible that there should be anything superior to reason: for reason, it is to be believed, is by nature first born and supreme. And yet the philosophers in question make the elements the first forms of existence.

A general objection which may be brought both against those who, because the soul perceives and knows things existing, describe it as formed from the elements, and also against those who make it the most mobile principle, is that their statement does not apply to every form of soul. Sentient beings are not in every case capable of movement: some animals in fact appear to be stationary in place: although at the same time this is thought to be the only form of movement by which soul 'moves' the animal. A like objection falls on those who construct reason and the faculty of sense out of the elements: for plants [of which their theory takes no account, although compounded of the elements] appear to live without partaking in locomotion or sensation, and there are many animals which appear to have no powers of discursive reasoning. But even if this be granted and reason as well as the faculty of sense

- παραχωρήσειε, καὶ θείη τὸν νοῦν μέρος τι τῆς ψυχῆς, ὁμοίως 25
 δὲ καὶ τὸ αἰσθητικόν, οὐδ' ἂν οὕτω λέγοιεν καθόλου περὶ
 § 15 πάσης ψυχῆς οὐδὲ περὶ ὅλης μιᾶς. τοῦτο δὲ πέπονθε
 καὶ ὁ ἐν τοῖς Ὀρφικοῖς ἔπεσι καλουμένοις λόγος· φησὶ γὰρ
 τὴν ψυχὴν ἐκ τοῦ ὅλου εἰσιέναι ἀναπνεόντων, φερομένην ὑπὸ
 τῶν ἀνέμων. οὐχ οἷόν τε δὴ τοῖς φυτοῖς τοῦτο συμβαίνειν οὐδὲ 30
 τῶν ζώων ἐνίοις, εἴπερ μὴ πάντα ἀναπνέουσιν. τοῦτο δὲ 41 I
 § 16 λέληθε τοὺς οὕτως ὑπειληφότας. εἰ δὲ δεῖ τὴν ψυχὴν ἐκ τῶν
 στοιχείων ποιεῖν, οὐθὲν δεῖ ἐξ ἀπάντων· ἱκανὸν γὰρ θάτερον
 μέρος τῆς ἐναντιώσεως ἑαυτό τε κρίνειν καὶ τὸ ἀντικείμενον.
 καὶ γὰρ τῷ εὐθεί καὶ αὐτὸ καὶ τὸ καμπύλον γινώσκομεν· 5
 κριτῆς γὰρ ἀμφοῖν ὁ κανὼν, τὸ δὲ καμπύλον οὐθ' ἑαυτοῦ
 § 17 οὔτε τοῦ εὐθέος. καὶ ἐν τῷ ὅλῳ δέ τινες αὐτὴν μεμῖχθαί
 φασιν, ὅθεν ἴσως καὶ Θαλῆς ᾤήθη πάντα πλήρη θεῶν εἶναι.
 § 18 τοῦτο δ' ἔχει τινὰς ἀπορίας· διὰ τίνα γὰρ αἰτίαν ἐν μὲν τῷ
 αέρι ἢ τῷ πυρὶ οὔσα ἢ ψυχὴ οὐ ποιεῖ ζῶον, ἐν δὲ τοῖς μι- 10
 § 19 κτοῖς, καὶ ταῦτα βελτίων ἐν τούτοις εἶναι δοκοῦσα; (ἐπιζητή-
 σειε γὰρ ἂν τις καὶ διὰ τίν' αἰτίαν ἢ ἐν τῷ αέρι ψυχὴ τῆς
 § 20 ἐν τοῖς ζώοις βελτίων ἐστὶ καὶ ἀθανατωτέρα.) συμβαίνει δ'
 ἀμφοτέρως ἄτοπον καὶ παράλογον· καὶ γὰρ τὸ λέγειν
 ζῶον τὸ πῦρ ἢ τὸν αέρα τῶν παραλογωτέρων ἐστί, καὶ τὸ 15
 § 21 μὴ λέγειν ζῶα ψυχῆς ἐνούσης ἄτοπον. ὑπολαβεῖν δ' εἰκόασιν
 εἶναι τὴν ψυχὴν ἐν τούτοις, ὅτι τὸ ὅλον τοῖς μορίοις ὁμοειδές.
 ὥστ' ἀναγκαῖον αὐτοῖς λέγειν καὶ τὴν ψυχὴν ὁμοειδῇ τοῖς
 μορίοις εἶναι, εἰ τῷ ἀπολαμβάνεσθαι τι τοῦ περιέχοντος ἐν
 τοῖς ζώοις ἔμψυχα τὰ ζῶα γίνεται. εἰ δ' ὁ μὲν ἀὴρ διασπώ- 20

26. καθόλου om. TUV. Tor.

μιᾶς SX.

411^a 2. εἴτε Bekk. Tor.

15. παραλόγων SUX.

27. οὐδὲ μιᾶς ETUVW Trend., οὐδὲ περὶ

12. γὰρ γ' pr. E, δ' WX.

19. ἀπολαμβάνειν STUW.

regarded as parts only of the soul, not even then should we have a general statement made respecting every soul or even respecting the whole of one particular form of it.

A like defect meets us in the account given in the verses ascribed to Orpheus. The soul, it is there said, enters from the universe, being carried inwards by the winds as animals are breathing. Now this is impossible in the case of plants and also in the case of certain animals in so far as they are not known to breathe: but this the holders of this theory have failed to notice. But though it be necessary to construct the soul out of the elements, there is no necessity to compose it out of all of them: one or the other of two contraries is sufficient to distinguish at once itself and its opposite. Thus by means of the straight we judge both the straight line and the crooked, the rule being the standard of both, while the crooked on the other hand can act as standard neither to itself nor to its opposite the straight.

A general diffusion throughout the universe is claimed by some writers for the soul: it was in fact possibly this view which led Thales to assert that everything was full of Gods. This however is a theory which presents some difficulties. Why is it, for instance, that the soul which is in the air or in the fire does not produce an animal organism, while it does so in those objects which are mixed and compound, and this too though such thinkers hold the soul dispersed within the former to be the superior? With reference to which, we might further ask why it is that the soul in air is, as they hold, more excellent and more immortal than that amongst animals. In two ways, in fact, their theory is inconsistent with itself and paradoxical. To speak of fire or air as of an animal is rather paradoxical: to hold, on the other hand, that soul is present in them and yet not call them animals is inconsistent. So again, the ground on which they conceive soul to be present in these elements is the opinion that the whole is homogeneous with its parts: and thus it is incumbent on them to say that the soul is of like kind with its parts, if it be by acquiring part of their environment that animals become possessed of soul. If however the air when divided remains of one uniform kind, whereas the soul is (as

μενος ὁμοειδής, ἡ δὲ ψυχὴ ἀνομοιομερής, τὸ μὲν τι αὐτῆς
 ὑπάρξει δῆλον ὅτι, τὸ δ' οὐχ ὑπάρξει. ἀναγκαῖον οὖν αὐτὴν
 ἢ ὁμοιομερῇ εἶναι ἢ μὴ ἐνυπάρχειν ἐν ὁπωσὺν μορίῳ τοῦ παν-
 § 22 τός. φανερόν οὖν ἐκ τῶν εἰρημένων ὡς οὔτε τὸ γινώσκειν ὑπάρ-
 χει τῇ ψυχῇ διὰ τὸ ἐκ τῶν στοιχείων εἶναι, οὔτε τὸ κινεῖ- 25
 § 23 σθαι αὐτὴν καλῶς οὐδ' ἀληθῶς λέγεται. ἐπεὶ δὲ τὸ γινώ-
 σκειν τῆς ψυχῆς ἐστὶ καὶ τὸ αἰσθάνεσθαι τε καὶ τὸ δοξά-
 ζειν, ἔτι δὲ τὸ ἐπιθυμεῖν καὶ βούλεσθαι καὶ ὅλως αἱ ὀρέξεις,
 γίνεται δὲ καὶ ἡ κατὰ τόπον κίνησις τοῖς ζώοις ὑπὸ τῆς
 ψυχῆς, ἔτι δ' αὔξη τε καὶ ἀκμὴ καὶ φθίσις, πότερον ὅλη 30
 τῇ ψυχῇ τούτων ἕκαστον ὑπάρχει, καὶ πάσῃ νοοῦμέν τε καὶ 411^b
 αἰσθανόμεθα καὶ τῶν ἄλλων ἕκαστον ποιούμεν τε καὶ πάσχο-
 μεν, ἢ μορίοις ἑτέροις ἑτερα; καὶ τὸ ζῆν δὴ πότερον ἐν τινι
 τούτων ἐστὶν ἐνὶ ἢ καὶ ἐν πλείοσιν ἢ πᾶσιν, ἢ καὶ ἄλλο τι
 § 24 αἷτιον; λέγουσι δὴ τινες μεριστὴν αὐτήν, καὶ ἄλλω μὲν 5
 νοεῖν ἄλλω δὲ ἐπιθυμεῖν. τί οὖν δὴ ποτε συνέχει τὴν ψυχὴν,
 εἰ μεριστὴ πέφυκεν; οὐ γὰρ δὴ τό γε σῶμα· δοκεῖ γὰρ τοῦ-
 ναντίον μᾶλλον ἢ ψυχὴ τὸ σῶμα συνέχειν· ἐξελλοῦσης γοῦν
 διαπνεῖται καὶ σήπεται. εἰ οὖν ἕτερόν τι μίαν αὐτὴν ποιεῖ,
 ἐκεῖνο μάλιστ' αὖ εἴη ψυχὴ. δεήσει δὲ καὶ πάλιν κακεῖνο 10
 ζητεῖν, πότερον ἐν ἢ πολυμερές. εἰ μὲν γὰρ ἐν, διὰ τί οὐκ
 εὐθέως καὶ ἡ ψυχὴ ἐν; εἰ δὲ μεριστόν, πάλιν ὁ λόγος ζη-
 τήσει τί τὸ συνέχον ἐκεῖνο, καὶ οὕτω δὴ πρόεισιν ἐπὶ τὸ
 § 25 ἄπειρον. ἀπορήσειε δ' αὖ τις καὶ περὶ τῶν μορίων αὐτῆς,
 τίν' ἔχει δύναμιν ἕκαστον ἐν τῷ σώματι. εἰ γὰρ ἡ ὅλη 15
 ψυχὴ πᾶν τὸ σῶμα συνέχει, προσήκει καὶ τῶν μορίων

28. δὲ καὶ τὸ SUWX || βουλευέσθαι TUVWXY. 30. αὔξησις STUVWX.
 411^b 2. αἰσθ. καὶ κινούμεθα καὶ EVW Tor. 6. ἄλλω] ἄλλο EW Ald. Tor. 10.
 καὶ om. E Tor. 12. καὶ τὴν ψυχὴν ἐν SUWX.

they maintain) of different kinds, it is clear that some part of it will, some other will not, be present. Either then the soul of living creatures must be throughout homogeneous, or soul cannot exist in every elemental part of the universe.

It is clear then from what has been said, that neither does cognition attach to the soul in consequence of its being composed of elements, nor can it be said with any appropriateness or truth that it is moved. Knowledge however is a property of the soul, and so also is perception and opinion, and further appetite and volition and desire in general: and it is by the agency of the soul that animals possess local movement and powers of growth, and reach their full development and final dissolution.

The question therefore rises, whether it is to the whole of the soul that each of these belongs, and whether we think and perceive and in general perform each of our functions, active and passive, with the whole of it, or, on the contrary, do we perform different functions with different parts. And as for life likewise we must ask whether it is contained in some one of these parts or in several of them, or whether it may be even in all of them, or whether it is something else which is its cause.

There are indeed some thinkers, who assert that the soul is divided into parts, and that it reasons with one part, desires with another part. But what, we may then ask, is it, if the soul be originally and naturally divided—what is it that holds the soul together? It cannot certainly be the body: on the contrary, the soul would generally be said to unite the body; at least when the soul has made its exit from it, the body is dissolved and rots. If then it be something else that makes it one, this something else could only be the soul; and as to that something else it will be needful in turn to inquire, whether it is one or made of many parts. If it be one, why should not the soul be this unity at once? if divided, reason will again inquire what it is that binds it together: and so the process will go on for ever.

Questions might be raised also about the different parts of soul, and we might ask what power is it that each exercises in the body: for if the soul as one whole unites the body as a whole, it is probable that each also of the parts unites and binds some

ἕκαστον συνέχειν τι τοῦ σώματος. τοῦτο δ' ἔοικεν ἀδυνάτῳ·
 ποῖον γὰρ μόριον ἢ πῶς ὁ νοῦς συνέξει, χαλεπὸν καὶ πλά-
 § 26 σαι. φαίνεται δὲ καὶ τὰ φυτὰ διαιρούμενα ζῆν καὶ τῶν
 ζώων ἓνία τῶν ἐντόμων, ὡς τὴν αὐτὴν ἔχοντα ψυχὴν τῷ 20
 εἶδει, εἰ καὶ μὴ ἀριθμῶ· ἐκάτερον γοῦν τῶν μορίων αἰσθησιν
 ἔχει καὶ κινεῖται κατὰ τόπον ἐπὶ τινα χρόνον. εἰ δὲ μὴ
 διατελοῦσιν, οὐθὲν ἄτοπον· ὄργανα γὰρ οὐκ ἔχουσιν ὥστε σώ-
 ζειν τὴν φύσιν. ἀλλ' οὐδὲν ἦττον ἐν ἐκατέρῳ τῶν μορίων
 ἅπαντ' ἐννύσχει τὰ μόρια τῆς ψυχῆς, καὶ ὁμοειδῆ εἰσιν 25
 ἀλλήλοις καὶ τῇ ὅλῃ, ἀλλήλων μὲν ὡς οὐ χωριστὰ ὄντα,
 § 27 τῆς δ' ὅλης ψυχῆς ὡς διαιρετῆς οὔσης. ἔοικε δὲ καὶ ἡ ἐν
 τοῖς φυτοῖς ἀρχὴ ψυχὴ τις εἶναι· μόνης γὰρ ταύτης κοινωνεῖ
 καὶ ζῶα καὶ φυτά. καὶ αὕτη μὲν χωρίζεται τῆς αἰσθητικῆς
 ἀρχῆς, αἰσθησιν δ' οὐθὲν ἄνευ ταύτης ἔχει.

30

18. συνέχει EV.
 ἀλλήλαις STUVX Tor.

21. γοῦν] γὰρ ET Tor.

25. ὁμοειδεῖς εἶσιν

28. ἀρχὴ ψυχῆ] ψυχὴ ἀρχή T. Tor.

portion of the body. This however seems impossible: it is difficult even to imagine what part reason will connect, or in what manner it will do so. Plants furthermore are found to live after they have been divided, and so also among animals are some insects—a fact implying that their different parts possess a soul which, if not numerically one, is still specifically the same: each at any rate of the separate parts possesses sensation, and displays a power of local movement for some time. That they do not continue to do so, is no matter for surprise, because the parts in question do not possess such organs as will maintain their nature. None the less, all the parts of soul are present in each one of these parts, and they are homogeneous with one another and with the soul taken as a whole, standing to one another as inseparable but to the whole soul as though it were divisible. Further also, the principle of life in plants seems to be a kind of soul: for this alone is common at once to animals and plants, and while it can itself exist separate from the principle of sense, there is still no living object that can possess sensitive capacities without having this capacity of growth which plants display.

ΑΡΙΣΤΟΤΕΛΟΥΣ

ΠΕΡΙ ΨΥΧΗΣ Β.

- § 1 Τὰ μὲν δὴ ὑπὸ τῶν πρότερον παραδεδομένα περὶ ψυ- 412^a
χῆς εἰρήσθω· πάλιν δ' ὥσπερ ἐξ ὑπαρχῆς ἐπανίωμεν, πει-
ρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς αὖ εἷη κοινότητος 5
- § 2 λόγος αὐτῆς. λέγομεν δὴ γένος ἔν τι τῶν ὄντων τὴν οὐσίαν,
ταύτης δὲ τὸ μὲν ὡς ὕλην, ὃ καθ' αὐτὸ μὲν οὐκ ἔστι τόδε
τι, ἕτερον δὲ μορφὴν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε
τι, καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη δύναμις, τὸ
δ' εἶδος ἐντελέχεια, (καὶ τοῦτο διχῶς, τὸ μὲν ὡς ἐπιστήμη, 10
- § 3 τὸ δ' ὡς τὸ θεωρεῖν). οὐσίαι δὲ μάλιστ' εἶναι δοκοῦσι τὰ
σώματα, καὶ τούτων τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων
ἀρχαί. τῶν δὲ φυσικῶν τὰ μὲν ἔχει ζωὴν, τὰ δ' οὐκ ἔχει.
ζωὴν δὲ λέγομεν τὴν δι' αὐτοῦ τροφήν τε καὶ αὔξησιν καὶ
φθίσιν. ὥστε πᾶν σῶμα φυσικὸν μετέχον ζωῆς οὐσία αὖ 15

412^a 3. τὰ μὲν—4. ἐπανίωμεν] pr. edit. exhib. SUWXE.
εἷη] ἐστι SUWX. 6. δὴ] δὲ UV.

5. αὖ

BOOK SECOND.

CHAPTER I.

The psychological theories of earlier thinkers have occupied us hitherto. We will now take up the subject as it were afresh, and attempt to determine what soul is, and what is the most comprehensive definition that can be given of it.

Real substance is the name which we assign one class of existing things ; and this real substance may be viewed from several aspects, either, *firstly*, as matter, meaning by matter that which in itself is not any individual thing ; or *secondly*, as form and specific characteristic in virtue of which an object comes to be described as such and such an individual ; or *thirdly*, as the result produced by a combination of this matter and this form. Further, while matter is merely potential existence, the form is perfect realization (a conception which may be taken in two forms, either as resembling knowledge possessed or as corresponding to observation in active exercise).

These real substances again are thought to correspond for the most part with bodies, and more particularly with natural bodies, because these latter are the source from which other bodies are formed. Now among such natural bodies, some have, others do not have life, meaning here by life the process of nutrition, increase and decay from an internal principle. Thus every natural body possessed of life would be a real substance, and a substance which we may describe as composite.

- § 4 εἴη, οὐσία δ' οὕτως ὡς συνθέτη. ἐπεὶ δ' ἐστὶ σῶμα καὶ τοι-
ονδί, ζῶν γὰρ ἔχον, οὐκ ἂν εἴη τὸ σῶμα ψυχή· οὐ γάρ
ἐστι τῶν καθ' ὑποκειμένου τὸ σῶμα, μᾶλλον δ' ὡς
ὑποκείμενον καὶ ὕλη. ἀναγκαῖον ἄρα τὴν ψυχὴν οὐσίαν
εἶναι ὡς εἶδος σώματος φυσικοῦ δυνάμει ζῶν ἔχοντος.²⁰
ἡ δ' οὐσία ἐντελέχεια. τοιούτου ἄρα σώματος ἐντελέ-
§ 5 χεια. αὕτη δὲ λέγεται διχῶς, ἡ μὲν ὡς ἐπιστήμη, ἡ δ'
ὡς τὸ θεωρεῖν. φανερόν οὖν ὅτι ὡς ἐπιστήμη· ἐν γὰρ
τῷ ὑπάρχειν τὴν ψυχὴν καὶ ὕπνος καὶ ἐγρήγορσις ἐστίν,
ἀνάλογον δ' ἡ μὲν ἐγρήγορσις τῷ θεωρεῖν, ὁ δ' ὕπνος τῷ²⁵
ἔχειν καὶ μὴ ἐνεργεῖν. προτέρα δὲ τῇ γενέσει ἐπὶ τοῦ αὐτοῦ
ἡ ἐπιστήμη. διὸ ψυχὴ ἐστίν ἐντελέχεια ἡ πρώτη σώματος
§ 6 φυσικοῦ δυνάμει ζῶν ἔχοντος. τοιοῦτο δέ, ὃ ἂν ᾗ ὀργανι-
κόν. ὄργανα δὲ καὶ τὰ τῶν φυτῶν μέρη, ἀλλὰ παντελῶς^{412b}
ἀπλᾶ, οἷον τὸ φύλλον περικαρπίου σκέπασμα, τὸ δὲ πε-
ρικάρπιον καρποῦ. αἱ δὲ ρίζαι τῷ στόματι ἀνάλογον· ἄμφω
γὰρ ἔλκει τὴν τροφήν. εἰ δὴ τι κοινὸν ἐπὶ πάσης ψυχῆς
δεῖ λέγειν, εἴη ἂν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ⁵
§ 7 ὀργανικοῦ. διὸ καὶ οὐ δεῖ ζητεῖν εἰ ἐν ἡ ψυχὴ καὶ τὸ σῶμα,
ὥσπερ οὐδὲ τὸν κηρὸν καὶ τὸ σχῆμα, οὐδ' ὅλως τὴν ἐκάστου
ὕλην καὶ τὸ οὗ ὕλη· τὸ γὰρ ἐν καὶ τὸ εἶναι ἐπεὶ πλεονα-

16. σῶμα τοιόνδε Ald. Sylb. Bekk. Tor. e codd. ET, καὶ τοιονδὶ τοῦτο SUVWX.

17. ἡ ψυχὴ SUVWX.

28. τοιούτον STVWX.

412^b 8. οὗ ἡ ὕλη ETV.

Since then the body, as possessed of life, is of this compound character, the body itself would not constitute the soul: for body is not [like life and soul] something attributed to a subject; it rather acts as the underlying subject and the material basis. Thus then the soul must necessarily be a real substance, as the form which determines a natural body possessed potentially of life. The reality however of an object is contained in its perfect realization. Soul therefore will be a perfect realization of a body such as has been described. Perfect realization however is a word used in two senses: it may be understood either as an implicit state corresponding to knowledge as possessed, or as an explicitly exercised process corresponding to active observation. Here, in reference to soul, it must evidently be understood in the former of these two senses: for the soul is present with us as much while we are asleep as while we are awake; and while waking resembles active observation, sleep resembles the implicit though not exercised possession of knowledge. Now in reference to the same subject, it is the implicit knowledge of scientific principles which stands prior. ~~Soul therefore is the earlier or implicit perfect realization of a natural body possessed potentially of life.~~

Such potential life belongs to everything which is possessed of organs. Organs however, we must remember, is a name that applies also to the parts of plants, except that they are altogether uncompounded. Thus the leaf is the protection of the pericarp and the pericarp of the fruit; while the roots are analogous to the mouth in animals, both being used to absorb nourishment. Thus then, if we be required to frame some one common definition, which will apply to every form of soul, it would be that soul is the earlier perfect realization of a natural organic body.

The definition we have just given should make it evident that we must no more ask whether the soul and the body are one, than ask whether the wax and the figure impressed upon it are one, or generally inquire whether the material and that of which it is the material are one; for though unity and being are used in a variety of senses, their most distinctive sense is that of perfect realization.

- § 8 χῶς λέγεται, τὸ κυρίως ἡ ἐντελέχειά ἐστιν. καθόλου μὲν οὖν εἴρηται τί ἐστιν ἡ ψυχὴ· οὐσία γὰρ ἡ κατὰ τὸν λόγον.¹⁰ τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιῷδὶ σώματι, καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν ἦν σῶμα, οἷον πέλεκυς· ἦν μὲν γὰρ ἂν τὸ πελέκει εἶναι ἡ οὐσία αὐτοῦ, καὶ ἡ ψυχὴ τοῦτο· χωρισθείσης γὰρ ταύτης οὐκ ἂν ἔτι πέλεκυς ἦν, ἀλλ' ἡ ὁμω-
νύμως. νῦν δ' ἐστὶ πέλεκυς· οὐ γὰρ τοιούτου σώματος τὸ τί¹⁵ ἦν εἶναι καὶ ὁ λόγος ἡ ψυχὴ, ἀλλὰ φυσικοῦ τοιουδὶ ἔχον-
§ 9 τος ἀρχὴν κινήσεως καὶ στάσεως ἐν ἑαυτῷ. θεωρεῖν δὲ καὶ ἐπὶ τῶν μερῶν δεῖ τὸ λεχθέν. εἰ γὰρ ἦν ὁ ὀφθαλμὸς ζῶον, ψυχὴ ἂν ἦν αὐτοῦ ἡ ὄψις· αὕτη γὰρ οὐσία ὀφθαλμοῦ ἡ κατὰ τὸν λόγον. ὁ δ' ὀφθαλμὸς ὕλη ὄψεως, ἧς ἀπολει-²⁰ πούσης οὐκ ἔστιν ὀφθαλμὸς, πλὴν ὁμωνύμως, καθάπερ ὁ λίθινος καὶ ὁ γεγραμμένος. δεῖ δὲ λαβεῖν τὸ ἐπὶ μέρους ἐφ' ὅλου τοῦ ζῶντος σώματος· ἀνάλογον γὰρ ἔχει ὡς τὸ μέρος πρὸς τὸ μέρος, οὕτως ἡ ὅλη αἴσθησις πρὸς τὸ ὅλον
§ 10 σῶμα τὸ αἰσθητικόν, ἥ τοιούτον. ἔστι δὲ οὐ τὸ ἀποβεβληκὸς²⁵ τὴν ψυχὴν τὸ δυνάμει ὄν ὥστε ζῆν, ἀλλὰ τὸ ἔχον· τὸ δὲ
§ 11 σπέρμα καὶ ὁ καρπὸς τὸ δυνάμει τοιονδὶ σῶμα. ὡς μὲν οὖν ἡ τμησις καὶ ἡ ὄρασις, οὕτω καὶ ἡ ἐγρηγόρισις ἐντελέ-
χεια, ὡς δ' ἡ ὄψις καὶ ἡ δύναμις τοῦ ὀργάνου, ἡ ψυχὴ·^{413a} τὸ δὲ σῶμα τὸ δυνάμει ὄν· ἀλλ' ὥσπερ ὁ ὀφθαλμὸς ἡ κόρη καὶ ἡ ὄψις, κακεῖ ἡ ψυχὴ καὶ τὸ σῶμα τὸ ζῶον.

9. λέγεται om. SUWX. 15. conl. Tor. νῦν δ' οὐκ ἔστιν. 20. conl. Tor. ὁ δ' ὀφθ. τὸ σύνολον, ἡ δὲ κόρη ὕλη ὄψεως. || ἀπολιπούσης TVW. Trend.
21. ἔστιν] ἔτι EX, οὐκέτ' Tor. 24. οὕτως om. UVWX. 413^a 2. ὁ om. ESV. Tor. 3. τὸ ante ζῶον om. ETV. Tor.

A general account has thus been given of the nature of the soul: it is, we have seen, a real substance which expresses an idea. Such a substance is the manifestation of the inner meaning of such and such a body. Suppose, for example, that an instrument such as an axe were a natural body: then its axehood or its being an axe would constitute its essential nature or reality, and thus, so to speak, its soul; because were this axehood taken away from it, it would be no longer an axe, except in so far as it might still be called by this same name. The object in question, however, is as matter of fact only an axe; soul being not the idea and the manifestation of the meaning of a body of this kind, but of a natural body possessing within itself a cause of movement and of rest.

The theory just stated should be viewed also in reference to the separate bodily parts. If, for example, the eye were possessed of life, vision would be its soul: because vision is the reality which expresses the idea of the eye. The eye itself, on the other hand, is merely the material substratum for vision: and when this power of vision fails, it no longer remains an eye, except in so far as it is still called by the same name, just in the same way as an eye carved in stone or delineated in painting is also so described. Now what holds good of the part must be applied to the living body taken as a whole: for perception as a whole stands to the whole sensitive body, as such, in the same ratio as the particular exercise of sense stands to a single organ of sense.

The part of our definition which speaks of something as "potentially possessed of life" must be taken to mean not that which has thrown off its soul, but rather that which has it: the seed and the fruit is such and such a body potentially. In the same way then as cutting is the full realization of an axe, or actual seeing the realization of the eye, so also waking may be said to be the full realization of the body: but it is in the sense in which vision is not only the exercise but also the implicit capacity of the eye that soul is the true realization of the body. The body on the other hand is merely the material to which soul gives reality: and just as the eye is both the pupil and its vision, so also the living animal is at once the soul and body in connection.

§ 12 ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ σώματος, ἢ μέρη
τινὰ αὐτῆς, εἰ μεριστὴ πέφυκεν, οὐκ ἄδηλον· ἐνίων γὰρ ἡ 5
ἐντελέχεια τῶν μερῶν ἐστὶν αὐτῶν· οὐ μὴν ἀλλ' ἐνία γε
οὐθὲν κωλύει, διὰ τὸ μηθενὸς εἶναι σώματος ἐντελεχείας.

§ 13 ἔτι δὲ ἄδηλον εἰ οὕτως ἐντελέχεια τοῦ σώματος ἡ ψυχὴ
ὥσπερ πλωτὴρ πλοίου. τύπῳ μὲν οὖν ταύτῃ διωρίσθω καὶ
ὑπογεγράθῃ περὶ ψυχῆς.

10

§ 1 II. Ἐπεὶ δ' ἐκ τῶν ἀσαφῶν μὲν φανερωτέρων δὲ γίγνε-
ται τὸ σαφές καὶ κατὰ τὸν λόγον γνωριμώτερον, πειρα-
τέον πάλιν οὕτως ἐπελθεῖν περὶ αὐτῆς· οὐ γὰρ μόνον τὸ ὅτι
δεῖ τὸν ὀριστικὸν λόγον δηλοῦν, ὥσπερ οἱ πλείστοι τῶν ὄρων
λέγουσιν, ἀλλὰ καὶ τὴν αἰτίαν ἐνυπάρχειν καὶ ἐμφαίνε 15
σθαι. νῦν δ' ὥσπερ συμπεράσμαθ' οἱ λόγοι τῶν ὄρων εἰσὶν·
οἷον τί ἐστι τετραγωνισμός; τὸ ἴσον ἑτερομήκει ὀρθογώνιον
εἶναι ἰσόπλευρον. ὁ δὲ τοιοῦτος ὄρος λόγος τοῦ συμπεράσμα-
τος. ὁ δὲ λέγων ὅτι ἐστὶν ὁ τετραγωνισμὸς μέσης εὗρεσις,

§ 2 τοῦ πράγματος λέγει τὸ αἷτιον. λέγομεν οὖν ἀρχὴν λαβόν- 20
τες τῆς σκέψεως, διωρίσθαι τὸ ἔμψυχον τοῦ ἀψύχου τῷ
ζῆν. πλεοναχῶς δὲ τοῦ ζῆν λεγομένου, κἂν ἐν τι τούτων
ἐνυπάρχῃ μόνον, ζῆν αὐτό φάμεν, οἷον νοῦς, αἴσθησις, κί-
νησις καὶ στάσις ἢ κατὰ τόπον, ἔτι κίνησις ἢ κατὰ τρο-
§ 3 φὴν καὶ φθίσιν τε καὶ αὔξισιν. διὸ καὶ τὰ φυόμενα 25
πάντα δοκεῖ ζῆν· φαίνεται γὰρ ἐν αὐτοῖς ἔχοντα δύναμιν

17. ἐστιν ὁ τετρ. ESTUX.

18. λόγος om. ETV.

20. λέγωμεν TW.

21.

σκέψεως] σκέψεως τοῦ πράγματος SUWX.

25. φθίσις τε καὶ αὔξισις Bekk. Tor. ETV.

It is not then difficult to see that soul or certain parts of it (if it naturally admit of partition) cannot be separated from the body: for in some cases the soul is the realization of the parts of body themselves. It is however perfectly conceivable that there may be some parts of it which are separable and this because they are not the expression or realization of any particular body. And indeed it is further matter of doubt whether soul as the perfect realization of the body may not stand to it in the same separable relation as a sailor to his boat.

This much may suffice as a description and sketch of the nature of the soul.

CHAPTER II.

It is however by proceeding from that which in the order of nature is indistinct, but is relatively to us more obvious and manifest, that we reach what is clear and more intelligible in the order of thought. We must therefore make a fresh attempt to discuss soul in this manner. For a definition should not, as most definitions do, merely assert the existence of an object and say what it is: it should also contain and express the cause or reason of the object. But, as usually framed, the terms of definitions are merely like conclusions. Thus, for example, let us ask—What is squaring? Squaring, it will be answered, is the construction of a rectangular equilateral figure equal to another figure with unequal sides. Now such a definition is merely like the statement of a conclusion. To say, on the other hand, that squaring is the discovery of a mean proportional is to state the cause which explains the result.

It may serve as a fresh beginning for our inquiry to say that the animate is distinguished from the inanimate or soulless by the fact of life. There are a number of ways in which a thing is said to live; yet should it possess only one of them—as for example, reason, sense—perception, local movement and rest, and further movement in respect of nutrition as well as of decay and growth—we say it lives. Hence it is that all plants are thought to live; because they manifestly contain within

- καὶ ἀρχὴν τοιαύτην, δι' ἧς αὖξησίν τε καὶ φθίσιν λαμβάνουσι κατὰ τοὺς ἐναντίους τόπους· οὐ γὰρ ἄνω μὲν αὖζεται κάτω δ' οὐ, ἀλλ' ὁμοίως ἐπ' ἄμφω καὶ πάντοσε ἐκτρέφεται καὶ ζῇ διὰ τέλους, ἕως ἂν δύνῃται λαμβάνειν ³⁰
- § 4 τροφήν· χωρίζεσθαι δὲ τοῦτο μὲν τῶν ἄλλων δυνατόν, τὰ δ' ἄλλα τούτου ἀδύνατον ἐν τοῖς θνητοῖς· φανερόν δ' ἐπὶ τῶν φυομένων· οὐδεμία γὰρ αὐτοῖς ὑπάρχει δυνάμεις ἄλλη ψυχῆς· τὸ μὲν οὖν ζῆν διὰ τὴν ἀρχὴν ταύτην ὑπάρχει τοῖς ⁴¹³ ζῶσι, τὸ δὲ ζῶον διὰ τὴν αἰσθησιν πρώτως· καὶ γὰρ τὰ μὴ κινούμενα μὴδ' ἀλλάττοντα τόπον, ἔχοντα δ' αἰσθησιν
- § 5 ζῶα λέγομεν καὶ οὐ ζῆν μόνον· αἰσθήσεως δὲ πρώτον ὑπάρχει πᾶσιν ἀφή· ὥσπερ δὲ τὸ θρεπτικὸν δύναται χωρίζε- ⁵ σθαι τῆς ἀφῆς καὶ πάσης αἰσθήσεως, οὕτως ἡ ἀφή τῶν ἄλλων αἰσθήσεων· θρεπτικὸν δὲ λέγομεν τὸ τοιοῦτον μόριον τῆς ψυχῆς οὗ καὶ τὰ φυτὰ μετέχει· τὰ δὲ ζῶα πάντα φαίνεται τὴν ἀπτικήν αἰσθησιν ἔχοντα· δι' ἣν δ' αἰτίαν
- § 6 ἐκάτερον τούτων συμβέβηκεν, ὕστερον ἐροῦμεν· νῦν δ' ἐπὶ ¹⁰ τοσοῦτον εἰρήσθω μόνον, ὅτι ἐστὶν ἡ ψυχὴ τῶν εἰρημένων τούτων ἀρχὴ καὶ τούτοις ὥρισταί, θρεπτικῶ, αἰσθητικῶ, διανοη-
- § 7 τικῶ, κινήσει· πότερον δὲ τούτων ἕκαστόν ἐστι ψυχὴ ἢ μόριον ψυχῆς, καὶ εἰ μόριον, πότερον οὕτως ὥστ' εἶναι χωριστὸν λόγῳ μόνον ἢ καὶ τόπῳ, περὶ μὲν τινῶν τούτων οὐ χαλεπὸν ¹⁵
- § 8 ἰδεῖν, ἔνια δὲ ἀπορίαν ἔχει· ὥσπερ γὰρ ἐπὶ τῶν φυτῶν ἔνια διαιρούμενα φαίνεται ζῶντα καὶ χωριζόμενα ἀπ' ἀλλήλων, ὥς οὔσης τῆς ἐν τούτοις ψυχῆς ἐντελεχεία μὲν μιᾶς ἐν ἑκάστῳ φυτῶ, δυνάμει δὲ πλειόνων, οὕτως ὁρῶμεν καὶ περὶ ἐτέρας διαφορὰς τῆς ψυχῆς συμβαῖνον ἐπὶ τῶν ἐντόμων ἐν τοῖς ²⁰ διατεμνομένοις· καὶ γὰρ αἰσθησιν ἐκάτερον τῶν μερῶν ἔχει

29. πάντοσε καὶ τρέφεται Trend. Tor. Bekk. πάντα ἐκτρέφεται τε καὶ SUX, πάντῃ ὅσα αἰετρέφεται τε καὶ ET. ⁴¹³ 8. φυόμενα ETVW Tor. 15. τούτων om. SUWX. 18. αὐτοῖς SUVX.

themselves such a power and principle as enables them to acquire growth and undergo decay in opposite directions; for they do not while growing upwards not grow downwards but they grow in both directions and on all sides, and they continue to live so long as they can assimilate nourishment. Now this faculty of nutrition may be separated from the other functions; but in the case of mortal creatures the other faculties cannot exist apart from this, as indeed is evident from plants which possess no other psychic power except this faculty of growth.

It is then through this principle of nutrition that life is an attribute of all living things. At the same time the animal strictly so called only begins when we reach sensation: for even those objects which do not move themselves nor change their position but possess sensation are said to be animals and not merely to be living. Among the senses themselves, it is touch which is the fundamental attribute of all animal forms. And just as the nutritive function may exist apart from touch and every form of sense, so also may touch exist without any of the other senses. Thus while nutritive is the name given to that part of the soul in which plants share as well as animals, all animals are found to possess the sense of touch. Why each of these faculties is so allotted we shall state hereafter: here it may be enough to say that the soul is the source and centre of the various states here mentioned and is determined and defined by those powers of nutrition, sensation, understanding and movement.

With regard to these several functions, whether each is the soul or a part of the soul; and if a part, whether so as only to be separable in thought or actually in space—with regard to some of these questions it is not difficult to see the answer, while others present difficulties. For just as, in the case of plants, some parts when divided are found to live even when separated from one another—a fact which seems to shew that the soul within them exists as actually one though it is potentially several; so also do we see it happen with respect to another specific aspect of the soul in the case of insects which have been divided. In such a case, each of the divided parts possesses sensation and

καὶ κίνησιν τὴν κατὰ τόπον, εἰ δ' αἰσθησιν, καὶ φαντασίαν
καὶ ὄρεξιν· ὅπου μὲν γὰρ αἰσθησις, καὶ λύπη τε καὶ ἡδονή,
§ 9 ὅπου δὲ ταῦτα, ἐξ ἀνάγκης καὶ ἐπιθυμία. περὶ δὲ τοῦ νοῦ
καὶ τῆς θεωρητικῆς δυνάμεως οὐδέν πω φανερόν, ἀλλ' ἔοικε 25
ψυχῆς γένος ἕτερον εἶναι, καὶ τοῦτο μόνον ἐνδέχεται χωρί-
§ 10 ζεσθαι, καθάπερ τὸ αἶδιον τοῦ φθαρτοῦ. τὰ δὲ λοιπὰ μόρια
τῆς ψυχῆς φανερόν ἐκ τούτων ὅτι οὐκ ἔστι χωριστά, καθάπερ
τινὲς φασιν· τῷ δὲ λόγῳ ὅτι ἕτερα, φανερόν· αἰσθητικῶ
γὰρ εἶναι καὶ δοξαστικῶ ἕτερον, εἴπερ καὶ τὸ αἰσθάνεσθαι 30
τοῦ δοξάζειν. ὁμοίως δὲ καὶ τῶν ἄλλων ἕκαστον τῶν εἰρημέ-
§ 11 νων. ἔτι δ' ἐνίοις μὲν τῶν ζώων ἅπανθ' ὑπάρχει ταῦτα,
τισὶ δὲ τινα τούτων, ἐτέροις δὲ ἐν μόνον. τοῦτο δὲ ποιεῖ δια-
φορὰν τῶν ζώων· διὰ τίνα δ' αἰτίαν, ὕστερον ἐπισκεπτέον. 414³
παραπλήσιον δὲ καὶ περὶ τὰς αἰσθήσεις συμβέβηκεν· τὰ
μὲν γὰρ ἔχει πάσας, τὰ δὲ τινάς, τὰ δὲ μίαν τὴν ἀναγ-
§ 12 καιοτάτην, ἀφήν. ἐπεὶ δὲ ᾧ ζῶμεν καὶ αἰσθανόμεθα διχῶς
λέγεται, καθάπερ ᾧ ἐπιστάμεθα, λέγομεν δὲ τὸ μὲν ἐπι- 5
στήμην τὸ δὲ ψυχὴν· ἐκατέρῳ γὰρ τούτων φαμὲν ἐπίστα-
σθαι· ὁμοίως δὲ καὶ ᾧ ὑγιαίνομεν, τὸ μὲν ὑγίεια, τὸ δὲ
μορίῳ τινὶ τοῦ σώματος ἢ καὶ ὄλῳ· τούτων δ' ἡ μὲν ἐπιστήμη
τε καὶ ὑγίεια μορφή καὶ εἰδός τι καὶ λόγος καὶ οἶον ἐνέρ-
γεια τοῦ δεκτικοῦ, ἡ μὲν τοῦ ἐπιστημονικοῦ, ἡ δὲ τοῦ ὑγιαστι- 10

25. αὐδὲ TUVWX.

33. διαφορὰς TVX.

414³ 4. ἐπεὶ δὲ] ἐτι δὲ conj.

Trend.

7. ὑγίειαν X pr. S, ὑγίεια ELTUVW, ὑγίεια Trend. Tor. Bz.

the power of local movement, and if sensation, then also in addition imagination and desire: for where sense is present, there pain and pleasure follow also as concomitants, and where pain and pleasure exist, appetite is also necessarily present. With regard on the other hand to reason and the faculty of thought we have as yet no obvious facts to appeal to. Reason however would seem to constitute a different phase of soul from those we have already noticed and it alone admits of separation as the eternal from the perishable. But as for the other parts of soul, it is clear from these considerations that they are not separated in the way that some maintain. At the same time it is evident that in thought and by abstraction they may be divided from one another. The sensitivity is one thing, the reflective faculty another, if it be one thing to have sensation, another thing to exercise reflection. And this same truth holds good also of the other powers which have been described.

Respecting these various powers, there are some animals which possess them all, others which have merely some of them, and others again which have but one only. It is this which makes the difference between one class of animals and another, though the reason for this fact can only be investigated afterwards. The same thing may be noticed also as regards the senses. Some animals have all of them, others have but some, and a third class possesses only that one sense which is most indispensable—viz. touch.

[Life, then, and sensation are what mark the animate.] But there are two ways in which we may speak of that by which we live and have sensation just as also that by which we know may be employed to denote either knowledge or the mind, by both of which we are in the habit of speaking of people as knowing. So also that by which we are in health denotes on the one hand the health itself, on the other hand some portion of the body or it may be the whole of it. Now of these two uses, knowledge and health are what we may term the determining form and notion and so to speak the realization of the recipient faculty, in the one case of knowledge, in the other of health—for the passive material which is subject to modifica-

κοῦ (δοκεῖ γὰρ ἐν τῷ πάσχοντι καὶ διατιθεμένῳ ἢ τῶν ποιητικῶν ὑπάρχειν ἐνέργεια), ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν καὶ αἰσθανόμεθα καὶ διανοούμεθα πρώτως· ὥστε λόγος τις ἂν εἴη

§ 13 καὶ εἶδος, ἀλλ' οὐχ ὕλη καὶ τὸ ὑποκείμενον. τριχῶς γὰρ λεγομένης τῆς οὐσίας, καθάπερ εἵπομεν, ὧν τὸ μὲν εἶδος, ¹⁵ τὸ δὲ ὕλη, τὸ δὲ ἐξ ἀμφοῖν· τούτων δ' ἡ μὲν ὕλη δύναμις, τὸ δὲ εἶδος ἐντελέχεια· ἐπεὶ δὲ τὸ ἐξ ἀμφοῖν ἔμψυχον, οὐ τὸ σῶμά ἐστιν ἐντελέχεια ψυχῆς, ἀλλ' αὕτη σώματός τι-

§ 14 νος. καὶ διὰ τοῦτο καλῶς ὑπολαμβάνουσιν οἷς δοκεῖ μῆτ' ἄνευ σώματος εἶναι μῆτε σῶμά τι ἢ ψυχὴ· σῶμα μὲν ²⁰ γὰρ οὐκ ἔστι, σώματος δέ τι, καὶ διὰ τοῦτο ἐν σώματι ὑπάρχει, καὶ ἐν σώματι τοιούτῳ, καὶ οὐχ ὥσπερ οἱ πρότερον εἰς σῶμα ἐνῆρμοζον αὐτήν, οὐθὲν προσδιορίζοντες ἐν τίνι καὶ ποίῳ, καίπερ οὐδὲ φαινομένου τοῦ τυχόντος δέχεσθαι τὸ

§ 15 τυχόν. οὕτω δὲ γίνεται καὶ κατὰ λόγον· ἐκάστου γὰρ ἡ ἐντε- ²⁵ λέχεια ἐν τῷ δυνάμει ὑπάρχοντι καὶ τῇ οἰκείᾳ ὕλῃ πέφυκεν ἐγγίνεσθαι. ὅτι μὲν οὖν ἐντελέχειά τις ἐστι καὶ λόγος τοῦ δύναναι ἔχοντος εἶναι τοιούτου, φανερὸν ἐκ τούτων.

17. δὲ] om. UVWX Trend.
εἶναι SUX.

23. προσδιορίσαντες SUX.

28. τοιουδι

tion is what is taken to be the home of the manifestation of the active forces. Soul then is the original and fundamental ground of all our life, of our sensation and of our reasoning. It follows therefore that the soul must be regarded as a sort of form and idea, rather than as matter and as underlying subject. For the term real substance is, as we have before remarked, employed in three senses: it may denote either the specific form, or the material substratum, or thirdly the combination of the two: and of these different aspects of reality the matter or substratum is but the potential ground, whereas the form is the perfect realization. Since then it is the product of the two that is animate, it cannot be that the body is the full realization or expression of the soul; rather on the contrary it is the soul which is the full realization of some body.

This fact fully supports the view of those who hold that the soul is not independent of some sort of body and yet not to be identified with a body of any sort whatever. The truth is that soul is not body but it is something which belongs to body. And hence further it exists in a body and in a body of such and such a nature, not left undetermined in the way that earlier thinkers introduced it into the body without determining besides what and what sort of body it was, although it does not even look as though any casual thing admitted any other casual thing.

This same conclusion may be reached also on *a priori* grounds. The full realization of each object is naturally reached only within that which is potentially existent and within that material substratum which is appropriate to it. It is clear then from these considerations that soul is a kind of full realization or expression of the idea of that which has potentially the power to be of such a character.

- § 1 III. Τῶν δὲ δυνάμεων τῆς ψυχῆς αἱ λεχθεῖσαι τοῖς μὲν
 ὑπάρχουσι πᾶσαι, καθάπερ εἶπομεν, τοῖς δὲ τινὲς αὐτῶν, 30
 ἐνίοις δὲ μία μόνη. δυνάμεις δ' εἶπομεν θρεπτικόν, αἰσθη-
 § 2 τικόν, ὀρεκτικόν, κινητικόν κατὰ τόπον, διανοητικόν. ὑπ-
 ἀρχει δὲ τοῖς μὲν φυτοῖς τὸ θρεπτικόν μόνον, ἑτέροις δὲ
 τοῦτό τε καὶ τὸ αἰσθητικόν. εἰ δὲ τὸ αἰσθητικόν, καὶ τὸ 414^b
 ὀρεκτικόν· ὀρεξίς μὲν γὰρ ἐπιθυμία καὶ θυμὸς καὶ βούλησις,
 τὰ δὲ ζῶα πάντ' ἔχουσι μίαν γε τῶν αἰσθήσεων, τὴν ἀφήν·
 ᾧ δ' αἰσθησις ὑπάρχει, τούτῳ ἡδονή τε καὶ λύπη καὶ τὸ
 ἡδύ τε καὶ λυπηρόν, οἷς δὲ ταῦτα, καὶ ἡ ἐπιθυμία· τοῦ 5
 § 3 γὰρ ἡδέος ὀρεξίς αὕτη. ἔτι δὲ τῆς τροφῆς αἰσθησιν ἔχουσιν·
 ἡ γὰρ ἀφή τῆς τροφῆς αἰσθησις· ξηροῖς γὰρ καὶ ὑγροῖς
 καὶ θερμοῖς καὶ ψυχροῖς τρέφεται τὰ ζῶα πάντα, τούτων
 δ' αἰσθησις ἀφή· τοῖς δ' ἄλλοις αἰσθητοῖς κατὰ συμβεβη-
 κός· οὐθὲν γὰρ εἰς τροφήν συμβάλλεται ψόφος οὐδὲ χρῶμα 10
 οὐδὲ ὀσμή. ὁ δὲ χυμὸς ἐν τι τῶν ἀπτῶν ἐστίν. πείνα δὲ καὶ
 δίψα ἐπιθυμία, καὶ ἡ μὲν πείνα ξηροῦ καὶ θερμοῦ, ἡ δὲ
 δίψα ψυχροῦ καὶ ὑγροῦ· ὁ δὲ χυμὸς οἷον ἡδυσμά τι τούτων
 ἐστίν. διασαφητέον δὲ περὶ αὐτῶν ὕστερον, νῦν δ' ἐπὶ τοσοῦτον
 εἰρήσθω, ὅτι τῶν ζώων τοῖς ἔχουσιν ἀφήν καὶ ὀρεξίς ὑπάρ- 15
 § 4 χει. περὶ δὲ φαντασίας ἄδηλον, ὕστερον δ' ἐπισκεπτέον. ἐνί-
 οῖς δὲ πρὸς τούτοις ὑπάρχει καὶ τὸ κατὰ τόπον κινητικόν,
 ἑτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἷον ἀνθρώποις καὶ

31. αἰσθ. ὀρεκ.] ὀρεκτικόν αἰσθητικόν ELSTW Tor.
 αὕτη STUX.

9. τῶν δ' ἄλλων αἰσθητῶν vulg.

15. διωρίσθω SUVX.

414^b 6. ὀρεξίς ἐστίν

13. τι om. SUVX.

CHAPTER III.

Of the powers of soul which have been mentioned, some organisms, as has been said, possess all, others again a few, while a third class possesses one only. The powers in question are those of nutrition, of sensation, of desire, of local movement and of reasoning. Plants possess the function of nutrition only: other creatures have this and also the faculty of sensation; and if this latter, then they must also have the faculty of desire: ~~for desire includes appetite and passion and wish.~~ Animals however without exception possess one at least among the senses—viz. touch: and wherever a faculty of sense is present it is accompanied by a feeling of pleasure and pain, and an object which is pleasant or painful. But where these are present, there appetite is also: for appetite is the desire of what is pleasant.

Besides, all animals have a sense for nourishment—viz. touch—for it is by means of things dry and moist, hot and cold, that all animals are fed: and touch is the sense which directly perceives these. As for the objects of other senses, on the contrary, it is only incidentally that they are fed by them; for neither sound nor colour nor smell directly contribute to food. Flavour again is included under the class of things that are tangible. Now hunger and thirst, which attach to taste, are forms of appetite, hunger being concerned with what is hot and dry, thirst with what is cold and moist, while flavour is as it were their seasoning.

These subjects we must afterwards discuss with more detail. Meanwhile it need only be asserted that those animals which possess the sense of touch have also the attribute of desire. Whether in addition they possess imagination is an obscure subject which must be investigated afterwards. Some animals possess, beside such faculties, the power of local movement also: others, as for instance men or other beings similar or superior to them, if there be any such, possess also understanding and reason.

- § 5 εἴ τι τοιοῦτον ἕτερόν ἐστιν ἢ καὶ τιμιώτερον. δῆλον οὖν ὅτι τὸν αὐτὸν τρόπον εἰς ἂν εἴη λόγος ψυχῆς τε καὶ σχήματος. 20 οὔτε γὰρ ἐκεῖ σχῆμα παρὰ τὸ τρίγωνόν ἐστι καὶ τὰ ἐφεξῆς, οὔτ' ἐνταῦθα ψυχὴ παρὰ τὰς εἰρημένας. γένοιτο δ' ἂν καὶ ἐπὶ τῶν σχημάτων λόγος κοινός, ὃς ἐφαρμόσει μὲν πᾶσιν, ἴδιος δ' οὐδενὸς ἔσται σχήματος. ὁμοίως δὲ καὶ ἐπὶ ταῖς εἰρημέναις ψυχαῖς. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον καὶ 25 ἐπὶ τούτων καὶ ἐφ' ἑτέρων, ὃς οὐδενὸς ἔσται τῶν ὄντων ἴδιος λόγος, οὐδὲ κατὰ τὸ οἰκεῖον καὶ ἄτομον εἶδος, ἀφέντας τὸν
- § 6 τοιοῦτον. παραπλησίως δ' ἔχει τῷ περὶ τῶν σχημάτων καὶ τὰ κατὰ ψυχὴν· αἰεὶ γὰρ ἐν τῷ ἐφεξῆς ὑπάρχει δυνάμει τὸ πρότερον ἐπὶ τε τῶν σχημάτων καὶ ἐπὶ τῶν ἐμψύχων, 30 οἷον ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῷ δὲ τὸ θρεπτικόν. ὥστε καθ' ἕκαστον ζητητέον, τίς ἐκάστου ψυχῆ, οἷον τίς
- § 7 φυτοῦ καὶ τίς ἀνθρώπου ἢ θηρίου. διὰ τίνα δ' αἰτίαν τῷ ἐφεξῆς οὕτως ἔχουσι, σκεπτέον. ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ τὸ 415^a αἰσθητικὸν οὐκ ἔστιν· τοῦ δ' αἰσθητικοῦ χωρίζεται τὸ θρεπτικὸν ἐν τοῖς φυτοῖς. πάλιν δ' ἄνευ μὲν τοῦ ἄπτικοῦ τῶν ἄλλων αἰσθήσεων οὐδεμία ὑπάρχει, ἀφῇ δ' ἄνευ τῶν ἄλλων ὑπάρχει· πολλὰ γὰρ τῶν ζώων οὔτ' ὄψιν οὔτ' ἀκοὴν ἔχουσιν 5 οὔτ' ὁσμῆς αἰσθησιν. καὶ τῶν αἰσθητικῶν δὲ τὰ μὲν ἔχει τὸ κατὰ τόπον κινητικόν, τὰ δ' οὐκ ἔχει. τελευταῖον δὲ καὶ ἐλάχιστα λογισμὸν καὶ διάνοιαν· οἷς μὲν γὰρ ὑπάρχει λογισμὸς τῶν φθαρτῶν, τούτοις καὶ τὰ λοιπὰ πάντα, οἷς δ' ἐκείνων ἕκαστον, οὐ πᾶσι λογισμός, ἀλλὰ τοῖς μὲν 10

19. καὶ om. ESTVW. 25. κοινόν] μόνον conj. Sus. 32. ὥστε καὶ καθ' κ.τ.λ. Tor. 415^a 2. θρεπτικόν, οἷον ἐν τοῖς φυτοῖς. Tor. ex ed. pr. 6. ὁσμῆς ὅλως αἰσθ. STUWX, ὅλως om. Ey. 8. ἐλάχιστον SUVWX.

It is clear then that there is one general definition of soul neither more nor less than there is one definition of figure. Just as in the latter case there is no figure other than the triangle and the figures which follow on it, so neither in the case of soul is there any form of it beyond those which we have enumerated. No doubt it is possible to have in reference to figures a common definition which will suit all figures and yet be peculiarly characteristic of no one figure in particular, and a like general definition is possible also with respect to the forms of soul which we have named. [But such common definitions are mere abstractions.] And hence it is absurd both in this case and in others to seek for a universal definition which shall be peculiar to no one form of existence nor framed with reference to the particular and individual species, if such common definition makes us neglect particular analysis.

The different forms of soul in fact stand to one another in the same way as do the several species of figure: both in the case of figures and of animate beings, the earlier form always exists potentially in the later. Thus the triangle is contained within the square and similarly in the faculty of sense the function of nutrition is implicitly contained. Thus we must push our inquiry into particulars and ask what is the soul of each form of existence; as for example what is that of a plant or of a man or of some brute beast. We must inquire also why they stand in such an order of succession. The sensitive nature, for instance, is not found without the nutritive: and yet the nutritive is found separated from the sensitive, as in the case of plants. Without the sense of touch, again, none of the other senses is present, while touch itself is found apart from the others: many animals possessing neither sight nor hearing nor the sense of smell. So likewise animals possessed of the faculties of sense sometimes have, sometimes do not have, the faculty of local movement; while finally the smallest class possess also reflection and understanding. And all mortals that possess the faculty of reasoning possess also all the other powers, whereas those that possess each of those others do not in every case possess reflection; some in fact do not even possess imagination

οὐδὲ φαντασία, τὰ δὲ ταύτῃ μόνῃ ζῶσιν. περὶ δὲ τοῦ θεωρη-
 τικοῦ νοῦ ἕτερος λόγος. ὅτι μὲν οὖν ὁ περὶ τούτων ἐκάστου
 λόγος οὗτος οἰκειότατος καὶ περὶ ψυχῆς, δῆλον.

§ 1 IV. Ἀναγκαῖον δὲ τὸν μέλλοντα περὶ τούτων σκέψιν ποιεῖ-
 σθαι λαβεῖν ἕκαστον αὐτῶν τί ἐστιν, εἴθ' οὕτως περὶ τῶν ἔχο- 15
 μένων καὶ περὶ τῶν ἄλλων ἐπιζητεῖν. εἰ δὲ χρὴ λέγειν τί ἕκα-
 στον αὐτῶν, οἷον τί τὸ νοητικὸν ἢ τὸ αἰσθητικὸν ἢ τὸ θρεπτι-
 κόν, πρότερον ἔτι λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι.
 πρότεραι γάρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι καὶ αἱ πράξεις κατὰ
 τὸν λόγον. εἰ δ' οὕτως, τούτων δ' ἔτι πρότερα τὰ ἀντικείμενα 20
 δεῖ τε θεωρηκεῖναι, περὶ ἐκείνων πρῶτον ἂν δέοι διορίσαι διὰ τὴν
 § 2 αὐτὴν αἰτίαν, οἷον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ. ὥστε
 πρῶτον περὶ τροφῆς καὶ γεννήσεως λεκτέον. ἡ γὰρ θρεπτικὴ
 ψυχὴ καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη
 δυνάμεις ἐστὶ ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν. ἥς ἐστὶν 25
 ἔργα γεννῆσαι καὶ τροφῇ χρῆσθαι. φυσικώτατον γὰρ τῶν
 ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα, ἢ τὴν γένε-
 σιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἷον αὐτό, ζῶον μὲν
 ζῶον, φυτὸν δὲ φυτόν, ἵνα τοῦ ἀεὶ καὶ τοῦ θεοῦ μετέχωσιν ἢ
 δύνανται· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου ἕνεκα πράττει 415^b
 ὅσα πράττει κατὰ φύσιν. [τὸ δ' οὐ ἕνεκα διπτόν, τὸ μὲν οὖν, τὸ
 δὲ φ.] ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ ἀεὶ καὶ τοῦ θεοῦ τῇ συν-
 εχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν φθαρτῶν ταῦτό καὶ ἐν
 ἀριθμῷ διαμένειν, ἢ δύναται μετέχειν ἕκαστον, κοινωνεῖ 5
 ταύτῃ, τὸ μὲν μᾶλλον τὸ δ' ἥττον· καὶ διαμένει οὐκ αὐτό

11. ταύτῃ μόνον SUX.

15. τί ἐστιν om. SUX.

16. ἢ καὶ SUX Trend.

19. πρότεραι E Ald. Sylb., πρότερον STUVWX.

26. χρῆσθαι STUVX

Trend., χρῆσθαι Bek. Tor.

28. αὐτόματον SUW.

while others live by the aid of this alone. As regards the speculative reason a different account must be given. Meanwhile it is clear that the special definition of each of these powers separately is at the same time the most appropriate account of the soul.

CHAPTER IV.

The investigation of the faculties of the soul demands that we should discover what each of them is and then proceed similarly to consider allied and remaining questions. In order however to state the nature of each of them, as for example the faculty of thought or sense or of nutrition, we must beforehand explain what is thinking and what is the act of perception: for viewed in the light of their essential notion the actions which give expression to a power are prior to the power itself. And if this be so, and it be necessary to consider even before the actions their objects, it will, for the same reason, be our first duty to settle about them, as for instance about food and the object of sense and the object of thought.

Food and generation should therefore be the first subjects of our inquiry: for the nutritive faculty is an attribute of other beings as well as man and is that primary and most common function of the soul in virtue of which life is an attribute of all animals. Its office is to generate and to make use of sustenance. In animals in fact that are perfect and not impaired by any defect or that are not created by spontaneous generation the most natural function is to create another like itself, animal thus producing animal, plant plant, so that they may as far as possible partake of the eternal and divine: for this desire is universal and constitutes the end of all natural action—'end,' it should be remembered, meaning not only the person for which but also the purpose at which something is directed. Since then it is impossible to share in the eternal and the divine in the same identical person, because nothing mortal can remain numerically the same and individual, each individual shares in this in the way it can, in some cases to a greater, in others to a less degree, and though not actually the same it continues as

- § 3 ἀλλ' οἷον αὐτό, ἀριθμῶ μὲν οὐχ ἓν, εἶδει δ' ἓν. ἔστι δὲ ἡ ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ ἀρχή. ταῦτα δὲ πολ-
 λαχῶς λέγεται. ὁμοίως δ' ἡ ψυχὴ κατὰ τοὺς διωρισμένους
 τρόπους τρεῖς αἰτία· καὶ γὰρ ὅθεν ἡ κίνησις αὐτή, καὶ οὗ 10
 ἔνεκα, καὶ ὡς ἡ οὐσία, τῶν ἐμφύχων σωμάτων ἡ ψυχὴ
 § 4 αἰτία. ὅτι μὲν οὖν ὡς οὐσία, δῆλον· τὸ γὰρ αἴτιον τοῦ εἶναι
 πᾶσιν ἡ οὐσία, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι ἔστιν, αἰτία δὲ
 καὶ ἀρχὴ τούτων ἡ ψυχή· ἔτι τοῦ δυνάμει ὄντος λόγος ἡ
 § 5 ἐντελέχεια. φανερόν δ' ὡς καὶ οὗ ἔνεκεν ἡ ψυχὴ αἰτία· 15
 ὥσπερ γὰρ ὁ νοῦς ἔνεκά του ποιεῖ, τὸν αὐτὸν τρόπον καὶ
 ἡ φύσις, καὶ τοῦτ' ἔστιν αὐτῇ τέλος. τοιοῦτον δ' ἐν τοῖς ζώοις
 ἡ ψυχὴ κατὰ φύσιν· πάντα γὰρ τὰ φυσικὰ σώματα τῆς
 ψυχῆς ὄργανα, καὶ καθάπερ τὰ τῶν ζώων, οὕτω καὶ τὰ
 τῶν φυτῶν, ὡς ἔνεκα τῆς ψυχῆς ὄντα. διττῶς δὲ τὸ οὗ 20
 § 6 ἔνεκα, τὰ τε οὗ καὶ τὸ ᾧ. ἀλλὰ μὴν καὶ ὅθεν πρῶτον ἡ
 κατὰ τόπον κίνησις, ψυχῇ· οὐ πᾶσι δ' ὑπάρχει τοῖς ζώοις
 ἡ δύναμις αὕτη. ἔστι δὲ καὶ ἀλλοιώσις καὶ αὔξησις κατὰ
 ψυχὴν· ἡ μὲν γὰρ αἴσθησις ἀλλοιώσις τις εἶναι δοκεῖ, αἰ-
 σθάνεται δ' οὐθὲν ὃ μὴ μετέχει ψυχῆς. ὁμοίως δὲ καὶ περὶ 25
 αὔξησέως τε καὶ φθίσεως ἔχει· οὐδὲν γὰρ φθίνει οὐδ' αὔξεται
 φυσικῶς μὴ τρεφόμενον, τρέφεται δ' οὐθὲν ὃ μὴ κοινωνεῖ
 § 7 ζωῆς. Ἐμπεδοκλῆς δ' οὐ καλῶς εἴρηκε τοῦτο, προστιθεὶς τὴν
 αὔξησιν συμβαίνειν τοῖς φυτοῖς κάτω μὲν συρριζουμένοις
 διὰ τὸ τὴν γῆν οὕτω φέρεσθαι κατὰ φύσιν, ἄνω δὲ διὰ τὸ 416a

7. addunt διόπερ τὸ σπέρμα τῶν ζώων καὶ φυτῶν ὄργανόν ἐστιν Um (i.e. 1921)
 Ald. Basil. et, qui φυτῶν etiam pro ζώων, X. διόπερ τὸ σπέρμα τῶν ζ. καὶ τῶν φ.
 ὄργανόν ἐστι τῆς ψυχῆς ἐστι T Camot. et, transpositis τὸ σπέρμα post τῶν ζώων, V.
 9. ὁμος SUWX. 17. αὐτῆς EST Tor. 18. ψυχὴ κατὰ φύσιν U Ald.
 Sylb., Bekker. e codd. reliquis ψ. καὶ κατὰ φύσιν. 25. ψυχὴν ἔχει SUX Trend.
 29. ριζουμένων SUVWX.

it were the same, because, though not one numerically, it continues one specifically.

The soul then is the cause and basis of the body as alive; and is so in each of the three senses in which the word cause is used: that is to say it is so both as the efficient cause from which movement springs, as the end or final cause and as the real or essential substance of animate bodies.

That the soul is so as essential substance is evident. In the case of all objects, the cause of their existence constitutes their essential substance. Now it is life which constitutes the existence of all animals, and of these processes of life soul is at once the cause and origin; and further, in the case of something which exists potentially, it is the full realization which is the notion or essential nature.

It is equally clear that soul is cause in the sense of end or final cause. Like reason, nature acts for the sake of some object; and this object is its end. Now in the animal world the soul is naturally something of this character. All natural bodies are instruments of the soul: and just as it is with the bodies of animals so also is it with those of plants, all being there simply for the sake of soul. But in saying that the soul is the end or final cause, we must remember that the word 'end' is used in two senses, and must understand it as meaning that at which a thing aims quite as much as that for which it exists.

Lastly, the soul is also cause as being the original source of local movement, a faculty however which all creatures do not have. The soul also exhibits phenomena of alteration and augmentation: for sensation is held to be a form of alteration and nothing possesses this faculty of sense unless it participate in soul. So also is it with augmentation and decay: nothing decays or grows in a natural manner except it receive nutrition: and nothing is nurtured except it partake of life.

This is a subject in which Empedocles has not expressed himself correctly. He maintains that the growth of plants when they strike their roots downwards is due to the fact that the earth [of which they are composed] is by a natural law carried in this direction: while their growth upwards is caused by

πῦρ ὡσαύτως. οὔτε γὰρ τὸ ἄνω καὶ κάτω καλῶς λαμβάνει· οὐ γὰρ ταὐτὸ πᾶσι τὸ ἄνω καὶ κάτω καὶ τῷ παντί, ἀλλ' ὡς ἡ κεφαλὴ τῶν ζώων, οὕτως αἱ ρίζαι τῶν φυτῶν, εἰ χρή τὰ ὄργανα λέγειν ἕτερα καὶ ταῦτα τοῖς ἔργοις. 5
 πρὸς δὲ τούτοις τί τὸ συνέχον εἰς τὰναντία φερόμενα τὸ πῦρ καὶ τὴν γῆν; διασπασθήσεται γάρ, εἰ μὴ τι ἔσται τὸ κωλύσον· εἰ δ' ἔσται, τοῦτ' ἐστὶν ἡ ψυχὴ καὶ τὸ αἷτιον τοῦ
 § 8 αὐξάνεσθαι καὶ τρέφεσθαι. δοκεῖ δέ τισιν ἡ τοῦ πυρὸς φύσις ἀπλῶς αἰτία τῆς τροφῆς καὶ τῆς αὐξήσεως εἶναι· καὶ γὰρ 10
 αὐτὸ φαίνεται μόνον τῶν σωμάτων ἢ τῶν στοιχείων τρεφόμενον καὶ αὐξόμενον. διὸ καὶ ἐν τοῖς φυτοῖς καὶ ἐν τοῖς ζώοις ὑπολάβοι τις ἂν τοῦτο εἶναι τὸ ἐργαζόμενον. τὸ δὲ συναίτιον μὲν πῶς ἐστίν, οὐ μὴν ἀπλῶς γε αἷτιον, ἀλλὰ μᾶλλον ἡ ψυχὴ· ἡ μὲν γὰρ τοῦ πυρὸς αὐξήσις εἰς ἅπει- 15
 ρον, ἕως ἂν ᾗ τὸ καυστόν, τῶν δὲ φύσει συνισταμένων πάντων ἐστὶ πέρας καὶ λόγος μεγέθους τε καὶ αὐξήσεως· ταῦτα
 § 9 δὲ ψυχῆς, ἀλλ' οὐ πυρός, καὶ λόγου μᾶλλον ἢ ὕλης. ἐπεὶ δ' ἡ αὐτὴ δύναμις τῆς ψυχῆς θρεπτικὴ καὶ γεννητικὴ, περὶ τροφῆς ἀναγκαῖον διωρίσθαι πρῶτον· ἀφορίζεται γὰρ πρὸς 20
 τὰς ἄλλας δυνάμεις τῷ ἔργῳ τούτῳ. δοκεῖ δ' εἶναι ἡ τροφή τὸ ἐναντίον τῷ ἐναντίῳ, οὐ πᾶν δὲ παντί, ἀλλ' ὅσα τῶν ἐναντίων μὴ μόνον γένεσιν ἐξ ἀλλήλων ἔχουσιν ἀλλὰ καὶ αὐξήσιν· γίνεται γὰρ πολλὰ ἐξ ἀλλήλων, ἀλλ' οὐ πάντα ποσά, οἷον ὕγιες ἐκ κάμνοντος. φαίνεται δ' οὐδ' ἐκεῖνα τὸν 25
 αὐτὸν τρόπον ἀλλήλοις εἶναι τροφή, ἀλλὰ τὸ μὲν ὕδωρ

416^a 3. καὶ τῷ παντί uncis incl. Sus.

7. κωλύον ETX Tor.

11. ἡ

τῶν στοιχείων uncis incl. Tor.

12. αὐξανόμενον SUVWX.

18. δὲ τῆς ψ.

ET Tor.

24. πάντα om. SUXy, corr. E.

25. ποσά om. UW pr. E.

the fact that their other element, the fire, is borne in this direction. Here Empedocles takes neither 'up' nor 'down' correctly. The 'up' and the 'down' are not the same for all individual objects as for the universe: the head for instance among animals corresponds to the roots in plants, if it be their functions that should determine organs as same and different. Besides, the question rises, what is it that combines elements such as fire and earth when carried in opposite directions. They will be pulled asunder, if there be not something to prevent it, and if there be, then this something is the soul and the cause of growth and nourishment.

There are some who hold that fire alone is the cause of nutrition and growth: because it is evidently the only one among bodies or elements that feeds and increases itself: and hence it might be thought to be the agent for effecting this in plants and animals. Now fire is in a way the concomitant and condition of growth: it is not however absolutely and by itself the cause: rather it is the soul which is so. The increase of fire proceeds without any limit, so long as there is material to burn: whereas in the case of all natural organisms there is an idea which determines their magnitude and increase: and this belongs to the soul and not to the fire, to the ideal form rather than to the indeterminate matter.

As the same faculty of soul is at once nutrient and generative, it is necessary in the first place to determine the nature of nutriment: for it is by nutrition that this faculty is distinguished from the other powers. Nutrition then is thought to consist in the absorption of the opposite by the opposite. This however need not be taken to mean that every opposite is nurtured by every other, but is meant to be applied only to all those opposites that derive not only their origin, but also their increase from one another: for there are many things that originate from one another, e.g. health from sickness, but the change does not always take the form of a quantitative increase. But it appears that not even do such quantitative contraries act as nutriment to one another in the same manner: liquid, for example, serves as nutriment to fire: but fire does not conversely serve as nutriment to liquid. And indeed it

τῷ πυρὶ τροφή, τὸ δὲ πῦρ οὐ τρέφει τὸ ὕδωρ. ἐν μὲν οὖν τοῖς ἀπλοῖς σώμασι ταῦτ' εἶναι δοκεῖ μάλιστα τὸ μὲν § 10 τροφή τὸ δὲ τρεφόμενον. ἀπορίαν δ' ἔχει· φασὶ γὰρ οἱ μὲν τὸ ὅμοιον τῷ ὁμοίῳ τρέφεσθαι, καθάπερ καὶ αὐξάνεσθαι, τοῖς δ' ὥσπερ εἵπομεν τοῦμπαλιν δοκεῖ, τὸ ἐναντίον τῷ ἐναντίῳ, ὡς ἀπαθoῦς ὄντος τοῦ ὁμοίου ὑπὸ τοῦ ὁμοίου, τὴν δὲ τροφήν μεταβάλλειν καὶ πέττεσθαι· ἡ δὲ μεταβολὴ πᾶσιν εἰς τὸ ἀντικείμενον ἢ τὸ μεταξύ. ἐτι πᾶσχει τι ἢ τροφή ὑπὸ τοῦ τρεφομένου, ἀλλ' οὐ τοῦτο ὑπὸ τῆς § 33 τροφῆς, ὥσπερ οὐδ' ὁ τέκτων ὑπὸ τῆς ὕλης, ἀλλ' ὑπ' ἐκείνου αὕτη· ὁ δὲ τέκτων μεταβάλλει μόνον εἰς ἐνέργειαν ἐξ § 11 ἀργίας. πότερον δ' ἐστὶν ἡ τροφή τὸ τελευταῖον προσγινόμενον ἢ τὸ πρῶτον, ἔχει διαφοράν. εἰ δ' ἄμφω, ἀλλ' ἡ μὲν ἄπεπτος ἡ δὲ πεπεμμένη, ἀμφοτέρως ἂν ἐνδέχοιτο τὴν § 5 τροφήν λέγειν· ἥ μὲν γὰρ ἄπεπτος, τὸ ἐναντίον τῷ ἐναντίῳ τρέφεται, ἥ δὲ πεπεμμένη, τὸ ὅμοιον τῷ ὁμοίῳ. ὥστε φανερόν ὅτι λέγουσὶ τινα τρόπον ἀμφότεροι καὶ ὀρθῶς καὶ § 12 οὐκ ὀρθῶς. ἐπεὶ δ' οὐθὲν τρέφεται μὴ μετέχον ζωῆς, τὸ ἔμψυχον ἂν εἴη σῶμα τὸ τρεφόμενον, ἢ ἔμψυχον, ὥστε καὶ § 10 ἡ τροφή πρὸς ἔμψυχόν ἐστι καὶ οὐ κατὰ συμβεβηκός. ἐστὶ δ' ἕτερον τροφή καὶ αὐξητικῶ εἶναι· ἥ μὲν γὰρ ποσόν τι τὸ ἔμψυχον, αὐξητικόν, ἥ δὲ τόδε τι καὶ οὐσία, τροφή· σῶζει γὰρ τὴν οὐσίαν, καὶ μέχρι τούτου ἐστὶν ἕως ἂν καὶ τρέφηται· καὶ γενέσεως ποιητικὸν οὐ τοῦ τρεφομένου, ἀλλ' § 15 οἶον τὸ τρεφόμενον· ἥδη γάρ ἐστιν αὐτοῦ ἡ οὐσία, γεννᾷ δ' οὐθὲν αὐτὸ ἐαυτό, ἀλλὰ σῶζει. ὥσθ' ἡ μὲν τοιαύτη τῆς

28. ἄλλοις SUX.

32. ὑπὸ τοῦ ὁμοίου om. EW.

416^b 3. προσκρινόμενον Them.

15. γεννήσεως ES.

16. αὕτη ἡ οὐσία Trend. Bekk. EL.

17. αὐτὸ om. ETVW.

seems to be especially in the case of simple bodies that the contraries stand to one another in the relation of nourishment and nourished. Here, however, a difficulty meets us. There are some who on the one hand maintain that like is nurtured by the like, just as the like is increased by the like: while others, as we have said, hold on the other hand that the contrary is so by the contrary, because (they say) the like cannot be affected by the like. The nutriment, they maintain, changes and suffers digestion, and change, they add, always tends towards the opposite or the intermediate. And besides, they argue, the nutriment is affected to some extent by the object which it nurtures, while this is not altered by the nutriment, just as the artisan is not affected by the material on which he operates but this material on the contrary by the artist: the workman only transforming it from inertness into actuality.

The real question here is what is to be regarded as the nutriment: and whether nutriment is to be taken as it ultimately reaches the system or in its first form is a matter that is disputed. If it be allowed to be both, but be in the one case digested, in the other case undigested, it might be possible to describe nutriment in terms of both the theories which have been enunciated. So far in fact as the food is undigested, the contrary is nurtured by the contrary: so far as it is digested, the like is nurtured by the like. Evidently then there is a mixture of truth and error in the two views. But as nothing can be fed and nurtured except it participate in life, it is the animate body as such that receives nutriment: and thus nutriment is relative to an animate being and is essentially determined by such relation.

There is however a difference between the import of nutriment and that of growth. So far as the animate body is something quantitative, it admits of growth, so far as it is a definite individual substance, it requires nutriment. The food in other words preserves the substance and continues to operate so long as this substance is nurtured: and it produces the generation not of the object nourished but of something else resembling it: for the object nourished already exists as a substance, and nothing generates itself but only maintains its own existence.

Thus then this rudimentary psychic form as we have de-

- ψυχῆς ἀρχὴ δύναμις ἐστὶν οἷα σώζειν τὸ ἔχον αὐτὴν ἢ
 τοιοῦτον, ἡ δὲ τροφή παρασκευάζει ἐνεργεῖν· διὸ στερηθὲν
 § 14 τροφῆς οὐ δύναται εἶναι. ἐπεὶ δ' ἐστὶ τρία, τὸ τρεφόμενον ²⁰
 καὶ ᾧ τρέφεται καὶ τὸ τρέφον, τὸ μὲν τρέφον ἐστὶν ἡ
 πρώτη ψυχὴ, τὸ δὲ τρεφόμενον τὸ ἔχον αὐτὴν σῶμα, ᾧ
 § 15 δὲ τρέφεται, ἡ τροφή. ἐπεὶ δὲ ἀπὸ τοῦ τέλους ἅπαντα
 προσαγορεύειν δίκαιον, τέλος δὲ τὸ γεννῆσαι οἷον αὐτό,
 § 16 εἴη ἂν ἡ πρώτη ψυχὴ γεννητικὴ οἷον αὐτό. ἔστι δὲ ᾧ τρέ- ²⁵
 φεται διττόν, ὥσπερ καὶ ᾧ κυβερνᾶ, ἡ χεὶρ καὶ τὸ πη-
 δάλιον, τὸ μὲν κινεῖν καὶ κινούμενον, τὸ δὲ κινεῖν μόνον.
 πᾶσαν δ' ἀναγκαῖον τροφήν δύνασθαι πέττεσθαι, ἐργάζεται
 δὲ τὴν πέψιν τὸ θερμόν· διὸ πᾶν ἔμψυχον ἔχει θερμότητα.
 τύπῳ μὲν οὖν ἡ τροφή τί ἐστὶν εἴρηται· διασαφητέον δ' ³⁰
 ἐστὶν ὕστερον περὶ αὐτῆς ἐν τοῖς οἰκείοις λόγοις.
- § 1 V. Διωρισμένων δὲ τούτων λέγωμεν κοινῇ περὶ πάσης
 αἰσθήσεως. ἡ δ' αἴσθησις ἐν τῷ κινεῖσθαι τε καὶ πάσχειν
 συμβαίνει, καθάπερ εἴρηται· δοκεῖ γὰρ ἀλλοιώσις τις εἶ-
 ναι. φασὶ δέ τινες καὶ τὸ ὅμοιον ὑπὸ τοῦ ὁμοίου πάσχειν. ³⁵
 τοῦτο δὲ πῶς δυνατόν ἢ ἀδύνατον, εἰρήκαμεν ἐν τοῖς καθόλου ⁴¹⁷
- § 2 λόγοις περὶ τοῦ ποιεῖν καὶ πάσχειν. ἔχει δ' ἀπορίαν διὰ τί

25. γεννητικὸν ESTWX Ald.

27. κινεῖν μόνον] κινούμενον Them. Philop.

33. τε] τι STWX.

scribed it, is a power adapted for preserving that which possesses this psychic form in so far as it possesses it: and nutriment enables it to act, so that when deprived of nutriment it is unable to exist. Three elements have here then to be recognised: *first*, the object nourished; *secondly*, that with which it is nourished: and *thirdly*, the power so nourishing it. Of these the last mentioned is the rudimentary or primary soul: the object nourished is the body which contains this soul, while that with which it is nourished is nutriment. (Everything however should be named in reference to the end it realizes, and since the end of this function of the soul is to produce another like itself, the first and rudimentary form of soul would be the generative—generative, that is, of another like itself.) That by which the nutriment is effected is twofold, just as likewise that by which we steer a ship may denote either the hand or the rudder—the one of which is at once moving and moved, the other moving only. Further it is necessary that all nutriment should be able to be digested, and this digestion is produced by heat: and thus everything animate possesses heat.

A sketch has thus been given of the nature of nutriment: it will be necessary however to examine the subject with more detail in the treatise appropriate to it.

CHAPTER V.

The character of sense-perception as a whole is the next subject which it falls to us to discuss. And perception, it was said, takes place as a result of being moved and being impressed: common opinion in fact views it as a sort of qualitative change or alteration. Now it is a doctrine held by some that in an impression like is affected by like. How far this is possible or impossible we have stated in our general discussion on the subject of the active and the passive processes. It suggests however

καὶ τῶν αἰσθήσεων αὐτῶν οὐ γίνεται αἴσθησις, καὶ διὰ τί
 ἄνευ τῶν ἔξω οὐ ποιοῦσιν αἴσθησιν, ἐνότος πυρὸς καὶ γῆς καὶ
 τῶν ἄλλων στοιχείων, ὧν ἐστὶν ἡ αἴσθησις καθ' αὐτὰ ἢ τὰ 5
 συμβεβηκότα τούτοις. δῆλον οὖν ὅτι τὸ αἰσθητικὸν οὐκ ἔστιν
 ἐνεργεία, ἀλλὰ δυνάμει μόνον. διὸ καθάπερ τὸ καυστὸν οὐ
 καίεται αὐτὸ καθ' αὐτὸ ἄνευ τοῦ καυστικοῦ· ἔκαιε γὰρ ἂν
 ἑαυτό, καὶ οὐθὲν ἐδεῖτο τοῦ ἐντελεχείᾳ πυρὸς ὄντος. ἐπειδὴ
 δὲ τὸ αἰσθάνεσθαι λέγομεν διχῶς (τό τε γὰρ δυνάμει ἀκοῦον 10
 καὶ ὁρῶν ἀκούειν καὶ ὁρᾶν λέγομεν, καὶ τύχῃ καθεῦδον, καὶ
 τὸ ἤδη ἐνεργοῦν), διχῶς ἂν λέγοιτο καὶ ἡ αἴσθησις, ἡ μὲν
 ὡς δυνάμει, ἡ δὲ ὡς ἐνεργείᾳ. ὁμοίως δὲ καὶ τὸ αἰσθητὸν
 § 3 τό τε δυνάμει ὄν καὶ τὸ ἐνεργείᾳ. πρῶτον μὲν οὖν ὡς
 τοῦ αὐτοῦ ὄντος τοῦ πάσχειν καὶ τοῦ κινεῖσθαι καὶ τοῦ ἐνεργεῖν 15
 λέγωμεν· καὶ γὰρ ἔστιν ἡ κίνησις ἐνεργείᾳ τις, ἀτελὴς μέν-
 τοι, καθάπερ ἐν ἐτέροις εἴρηται. πάντα δὲ πάσχει καὶ κι-
 νεῖται ὑπὸ τοῦ ποιητικοῦ καὶ ἐνεργείᾳ ὄντος. διὸ ἔστι μὲν ὡς
 ὑπὸ τοῦ ὁμοίου πάσχει, ἔστι δὲ ὡς ὑπὸ τοῦ ἀνομοίου, καθά-
 περ εἵπομεν· πάσχει μὲν γὰρ τὸ ἀνόμοιον, πεπονθὸς δ' 20
 § 4 ὁμοιόν ἐστιν. διαιρετέον δὲ καὶ περὶ δυνάμεως καὶ ἐντελε-
 χείας· νῦν γὰρ ἀπλῶς λέγομεν περὶ αὐτῶν. ἔστι μὲν γὰρ
 οὕτως ἐπιστήμόν τι ὡς ἂν εἵπομεν ἄνθρωπον ἐπιστήμονα, ὅτι
 ὁ ἄνθρωπος τῶν ἐπιστημόνων καὶ ἐχόντων ἐπιστήμην· ἔστι δ'

417^a 7. οὐκ αἰσθάνεται καθάπερ ΤΧ.

13. τὸ αἰσθητὸν] Vulg. αἰσθάνεσθαι.

16. λέγομεν STUWX.

23. εἵπωμεν ETUVW.

at once the question—why is there no perception or sense of the senses themselves, and why do the senses not produce a perception without the help of external objects, when there is contained within them fire and earth and the other elements which are objects of perception either in themselves or in virtue of their properties. Evidently, it follows, the power of sense perception exists not as something actually exercised, but only as something potential. And so the case is parallel to that of combustible material, which is not burnt by itself without the presence of that which can set it on fire: otherwise it would set fire to itself, and there would be no need for the help of actual fire. We must note however that we use the word ‘perceive’ in two senses. In the case of that which has the power to hear and see, we say it hears and sees, even if it chance to be asleep, just as much as we do in the case of that which is already actually at work. Perception therefore would be similarly used in two senses, on the one hand as in potentiality, on the other hand as in actuality: and this same distinction will in turn apply to the object of perception, which is from one aspect potential, from another actual.

Let us then in the first place agree to regard in our discussion the words “passive impression” “movement” and “activity” as identical: for movement is a species of realized activity, though, as has been elsewhere said, it is imperfect. Now in every instance things are impressed and set in movement by something which is capable of producing an impression and which exists in full activity. And thus an impression is in one sense made by the like, in another sense by the unlike, as has been already said; for it is as unlike that anything suffers an impression: after the impression has been made, it is converted into like.

But, in the second place, a distinction must be drawn with reference to potentiality and actuality; at present we are speaking about them as if they admitted of no variations of meaning. For instance any individual may be described as knowing (1) in the sense in which we should describe a man as knowing, because, i.e., man is included in the class of beings that are intelligent and gifted with knowledge; or (2) an individual might be said to know in the sense in which we speak of a person as knowing

ὡς ἤδη λέγομεν ἐπιστήμονα τὸν ἔχοντα τὴν γραμματικὴν·²⁵
 (ἐκάτερος δὲ τούτων οὐ τὸν αὐτὸν τρόπον δυνατὸς ἐστίν, ἀλλ'
 ὁ μὲν ὅτι τὸ γένος τοιοῦτον καὶ ἡ ὕλη, ὁ δ' ὅτι βουληθεὶς
 δυνατὸς θεωρεῖν, ἂν μή τι κωλύσῃ τῶν ἑξῶθεν·) ὁ δ' ἤδη
 θεωρῶν ἐντελεχεία ὧν καὶ κυρίως ἐπιστάμενος τόδε τὸ Α.
 ἀμφοτέροι μὲν οὖν οἱ πρῶτοι κατὰ δύναμιν ἐπιστήμονες,³⁰
 ἀλλ' ὁ μὲν διὰ μαθήσεως ἀλλοιωθεὶς καὶ πολλάκις ἐξ
ἐναντίας μεταβαλὼν ἑξέως, ὁ δ' ἐκ τοῦ ἔχειν τὴν αἴσθησιν
 ἣ τὴν γραμματικὴν, μὴ ἐνεργεῖν δ' εἰς τὸ ἐνεργεῖν ἄλλον^{417^b}
 § 5 τρόπον. οὐκ ἔστι δ' ἀπλοῦν οὐδὲ τὸ πάσχειν, ἀλλὰ τὸ μὲν
 φθορά τις ὑπὸ τοῦ ἐναντίου, τὸ δὲ σωτηρία μᾶλλον τοῦ δυνά-
 μει ὄντος ὑπὸ τοῦ ἐντελεχείᾳ ὄντος καὶ ὁμοίου, οὕτως ὡς δύ-
 ναμις ἔχει πρὸς ἐντελέχειαν· θεωροῦν γὰρ γίγνεται τὸ ἔχον⁵
 τὴν ἐπιστήμην, ὅπερ ἡ οὐκ ἔστιν ἀλλοιοῦσθαι (εἰς αὐτὸ γὰρ ἡ
 ἐπίδοσις καὶ εἰς ἐντελέχειαν) ἢ ἕτερον γένος ἀλλοιώσεως.
 διὸ οὐ καλῶς ἔχει λέγειν τὸ φρονοῦν, ὅταν φρονῇ, ἀλλοιοῦ-
 σθαι, ὥσπερ οὐδὲ τὸν οἰκοδόμον ὅταν οἰκοδομῇ. τὸ μὲν οὖν
 εἰς ἐντελέχειαν ἄγον ἐκ δυνάμει ὄντος κατὰ τὸ νοοῦν καὶ¹⁰
 φρονοῦν οὐ διδασκαλίαν ἀλλ' ἐτέραν ἐπωνυμίαν ἔχειν δί-
 καιον· τὸ δ' ἐκ δυνάμει ὄντος μανθάνον καὶ λαμβάνον ἐπι-
 στήμην ὑπὸ τοῦ ἐντελεχείᾳ ὄντος καὶ διδασκαλικοῦ ἥτοι οὐδὲ
 πάσχειν φατέον, ὥσπερ εἴρηται, ἣ δύο τρόπους εἶναι ἀλ-

25. ἐπίστασθαι SX. 28. ὁ δ' ἤδη] τρίτος δ' ὁ ἤδη θεωρῶν Tor. 30. πρῶτοι
 unc. incl. Tor. 417^b 14. ὥσπερ εἴρηται om. SUX.

only after he has acquired a knowledge of the principles of grammar. Now of these two persons, each possesses the capacity for knowledge in a different sense—the one because the generic character and fundamental nature of man is of this description, the other because if he wished he would be able to apply his knowledge, supposing that no obstacle prevented him. He on the other hand (3) who has advanced so far as to apply his knowledge is in a state of full realization and knows in the strict sense of the word—for instance that this definite thing is A. As compared then with this third, both of these first mentioned possess knowledge only in potentiality: but they do so in different senses, the one because in order to become a man of knowledge he must have been transformed by learning and in many cases changed from the directly contrary state: the other because, while possessing, though not employing (say) perceptive faculties or grammatical principles, he can proceed to use them when he wishes.

-Sūvānis
Sūvānis
-Sūvānis

Suffering or impression similarly is not used in one single sense. On the one hand, it is equivalent to some sort of destruction by the opposite; on the other hand it is rather the preservation of that which exists potentially by means of the actual and similar, much in the same way in which potential capacity stands to actual reality. That for example which possesses knowledge rises into actual consciousness: and this is either not to be described as alteration (because its advance is towards itself and its own perfect development) or it is a different kind of alteration from that usually signified. Hence it is not correct to say that a thinking being is at the time of thinking undergoing alteration: as little as that the housebuilder is so at the time when he is building. The process therefore which transforms what is potential into what is actual in relation to a reasoning and thinking being should be called not instruction but should be known by some other name; and similarly, with reference to that which, on the basis of what is merely potential, learns and receives knowledge at the hands of that which is actual and capable of teaching, we either must not speak of it as 'suffering' an impression (as has been said) or we must recognise two different forms of alteration, the one a transition into the

λοιώσεως, τὴν τε ἐπὶ τὰς στερητικὰς διαθέσεις μεταβολὴν ¹⁵
 § 6 καὶ τὴν ἐπὶ τὰς ἑξείς καὶ τὴν φύσιν. τοῦ δ' αἰσθητικοῦ ἡ μὲν
 πρώτη μεταβολὴ γίνεται ὑπὸ τοῦ γεννῶντος, ὅταν δὲ γεν-
 νηθῇ, ἔχει ἤδη ὥσπερ ἐπιστήμην καὶ τὸ αἰσθάνεσθαι. καὶ
 τὸ κατ' ἐνέργειαν δὲ ὁμοίως λέγεται τῷ θεωρεῖν· διαφέρει
 δέ, ὅτι τοῦ μὲν τὰ ποιητικὰ τῆς ἐνεργείας ἔξωθεν, τὸ ὁρατὸν ²⁰
 καὶ τὸ ἀκουστόν, ὁμοίως δὲ καὶ τὰ λοιπὰ τῶν αἰσθητῶν.
 αἴτιον δ' ὅτι τῶν καθ' ἕκαστον ἡ κατ' ἐνέργειαν αἰσθησις, ἡ
 δ' ἐπιστήμη τῶν καθόλου· ταῦτα δ' ἐν αὐτῇ πῶς ἐστι τῇ
 ψυχῇ. διὸ νοῆσαι μὲν ἐπ' αὐτῷ, ὁπόταν βούληται, αἰσθάνεσθαι
δ' οὐκ ἐπ' αὐτῇ· ἀναγκαῖον γὰρ ὑπάρχειν τὸ αἰσθη- ²⁵
 τόν. ὁμοίως δὲ τοῦτ' ἔχει καὶ ταῖς ἐπιστήμας ταῖς τῶν αἰ-
 σθητῶν, καὶ διὰ τὴν αὐτὴν αἰτίαν, ὅτι τὰ αἰσθητὰ τῶν καθ'
 ἕκαστα καὶ τῶν ἔξωθεν. ἀλλὰ περὶ μὲν τούτων διασαφῆσαι
 § 7 καιρὸς γένοιτ' ἂν καὶ εἰσαῦθις. νῦν δὲ διωρίσθω τοσοῦτον, ὅτι
 οὐχ ἀπλοῦ ὄντος τοῦ δυνάμει λεγομένου, ἀλλὰ τοῦ μὲν ὥσπερ ³⁰
 ἂν εἴποιμεν τὸν παῖδα δύνασθαι στρατηγεῖν, τοῦ δὲ ὡς τὸν ἐν
 ἡλικίᾳ ὄντα, οὕτως ἔχει τὸ αἰσθητικόν. ἐπεὶ δ' ἀνώνυμος
 αὐτῶν ἡ διαφορά, διώρισται δὲ περὶ αὐτῶν ὅτι ἕτερα καὶ ⁴¹⁸
 πῶς ἕτερα, χρῆσθαι ἀναγκαῖον τῷ πάσχειν καὶ ἄλλοι-
 οῦσθαι ὡς κυρίους ὀνόμασιν. τὸ δ' αἰσθητικὸν δυνάμει ἐστὶν
 οἷον τὸ αἰσθητὸν ἤδη ἐντελεχεία, καθάπερ εἴρηται. πάσχει
 μὲν οὖν οὐχ ὅμοιον ὄν, πεπονθὸς δ' ὁμοίωται καὶ ἐστίν ⁵
 οἷον ἐκεῖνο.

24. ὁπόταν] ὅταν VWX.

31. εἴποιμεν] εἴπωμεν SUX.

merely negative phase of a previous state, the other a transition into the established and natural condition.

In the sensitive subject the first form of transition is effected by the generating parent: after birth however the subject born comes to possess sensation in the further way of an intelligent experience. The actual exercise of sense comes to be used in fact as equivalent to thought, with this difference, however, that in the case of sense the objects which stimulate the faculty into action—that is the objects of sight, hearing and of the other senses, come from outside. The reason of this is that sense-perception when in active exercise deals with individual objects, whereas intelligent experience is concerned with universals: and these last are in a way contained within the mind itself. Hence it is within a man's own power to think whenever he wishes: but sense-perception is not thus in his own hands: because the object of sense must be beforehand present. The same holds good also of the sciences that deal with sensible phenomena: and this too for the same reason,* because the objects of sense are individual and external.

So part-
and in
each-
ie, it
begins the
process

We must however postpone the fuller discussion of this subject to another occasion. At present we may regard this much as settled—that just as what is described as potential is not used in one single sense, but on the one hand in the sense according to which we should speak of the boy as able potentially to be a general and on the other hand in that according to which we should say that the man in prime of life is potentially so able: so also is it with the power of sense-perception. Since however the distinction in question, although we have settled that the two senses are different and also how they are different, is not recognised by language, we must employ the words *impression* and *alteration* as current terms. But, as has been said, the faculty of sense-perception is potentially what the object of sense is actually. During the process of perception then the faculty of sense is not similar to its object; but after the impression, it is assimilated and becomes analogous to it.

- § 1 VI. Λεκτέον δὲ καθ' ἐκάστην αἴσθησιν περὶ τῶν αἰσθη-
τῶν πρῶτον. λέγεται δὲ τὸ αἰσθητὸν τριχῶς, ὧν δύο μὲν καθ'
αὐτὰ φαμεν αἰσθάνεσθαι, τὸ δὲ ἓν κατὰ συμβεβηκός. τῶν
δὲ δύο τὸ μὲν ἴδιόν ἐστιν ἐκάστης αἰσθήσεως, τὸ δὲ κοινὸν 10
- § 2 πασῶν. λέγω δ' ἴδιον μὲν ὃ μὴ ἐνδέχεται ἑτέρα αἰσθήσει
αἰσθάνεσθαι, καὶ περὶ ὃ μὴ ἐνδέχεται ἀπατηθῆναι, οἷον
ὄψις χρώματος καὶ ἀκοή ψόφου καὶ γεῦσις χυμοῦ. ἡ δ'
ἀφή πλείους μὲν ἔχει διαφοράς· ἀλλ' ἐκάστη γε κρίνει περὶ
τούτων, καὶ οὐκ ἀπατᾶται ὅτι χρῶμα οὐδ' ὅτι ψόφος, 15
- § 3 ἀλλὰ τί τὸ κεχρωσμένον ἢ ποῦ, ἢ τί τὸ ψοφοῦν ἢ ποῦ. τὰ
μὲν οὖν τοιαῦτα λέγεται ἴδια ἐκάστων, κοινὰ δὲ κίνησις, ἡρε-
μία, ἀριθμός, σχῆμα, μέγεθος· τὰ γὰρ τοιαῦτα οὐδεμιᾶς
ἐστὶν ἴδια, ἀλλὰ κοινὰ πάσαις· καὶ γὰρ ἀφή τε κίνησις
- § 4 ἐστὶν αἰσθητὴ καὶ ὄψει. κατὰ συμβεβηκός δὲ λέγεται αἰ- 20
σθητόν, οἷον εἰ τὸ λευκὸν εἶη Διάρους υἱός· κατὰ συμβε-
βηκός γὰρ τούτου αἰσθάνεται, ὅτι τῷ λευκῷ συμβέβηκε
τοῦτο οὗ αἰσθάνεται. διὸ καὶ οὐδὲν πάσχει ἢ τοιοῦτον ὑπὸ τοῦ
αἰσθητοῦ. τῶν δὲ καθ' αὐτὰ αἰσθητῶν τὰ ἴδια κυρίως ἐστὶν
αἰσθητά, καὶ πρὸς ἃ ἡ οὐσία πέφυκεν ἐκάστης αἰσθήσεως. 25

418^a 19. πάσαις om. UX || ἀφή τε κίνησις] vulg. ἀφή κίνησις τίς, κιν. τε V. 20.
post ὄψει editi ante Bekk. καθ' αὐτὰ μὲν οὖν ἐστὶν αἰσθητὰ ταῦτα. 23. ἢ om. SUX.

CHAPTER VI.

In dealing with the senses separately we must begin by a description of their objects. The so-called object of sense-perception may mean three different things, of which two are said to be perceived directly in themselves, the third incidentally and with regard to its concomitants. Of the two first-mentioned, one is special and confined to each one of the senses separately, the other is common to them all. By the special is to be understood that which it is impossible to perceive by any other sense than that appropriated to it and with respect to which that sense cannot be deceived. So it is that colour stands to sight, sound to hearing, flavour to taste: touch, however, it must be added, deals with a number of different qualities. Each single sense in fact discerns these different qualities, and is subject to no delusion as to whether it be a colour or whether it be a sound that it perceives: its only doubt is *what* it is that is coloured or *where* it is, or what or where is the body that is sounding. Such are the objects of perception which are said to be peculiar to each separate sense.

The common sensibles are movement, rest, number, figure, magnitude; such properties being peculiar to no one single sense but shared in common by them all. Movement for instance is perceived at once by touch and by sight.

By the term incidental sensible I describe such a case as when a certain white object is perceived as the son of Diares: for here there is but an incidental or indirect perception of this object, in so far as the object which is perceived is an incident or property of what is white. Hence then the organ of sense is affected in no way by the object of sense so far as it is such and such a person or thing. But among those objects of sense which are perceived directly in themselves, it is those special to the separate senses that are strictly the objects of perception and those for which the essential nature of each sense is naturally adapted.

§ 1 VII. Οὐ μὲν οὖν ἐστὶν ἡ ὄψις, τοῦτ' ἐστὶν ὁρατόν. ὁρα-
 τὸν δ' ἐστὶ χρώμα τε, καὶ ὁ λόγῳ μὲν ἔστιν εἰπεῖν, ἀνώνυμον
 δὲ τυγχάνει οὖν· δῆλον δὲ ἔσται ὁ λέγομεν προελθοῦσι μά-
 λιστα. τὸ γὰρ ὁρατόν ἐστι χρώμα. τοῦτο δ' ἐστὶ τὸ ἐπὶ τοῦ
 καθ' αὐτὸ ὁρατοῦ· καθ' αὐτὸ δὲ οὐ τῷ λόγῳ, ἀλλ' ὅτι ἐν 30
 ἑαυτῷ ἔχει τὸ αἷτιον τοῦ εἶναι ὁρατόν. πᾶν δὲ χρώμα κινη-
 τικόν ἐστι τοῦ κατ' ἐνέργειαν διαφανοῦς, καὶ τοῦτ' ἐστὶν αὐτοῦ 418^b
 ἡ φύσις. διόπερ οὐχ ὁρατὸν ἄνευ φωτός, ἀλλὰ πᾶν τὸ ἐκάστου
 χρώμα ἐν φωτὶ ὁρατόν. διὸ περὶ φωτὸς πρῶτον λεκτέον τί
 § 2 ἐστὶν. ἔστι δὴ τι διαφανές. διαφανές δὲ λέγω ὃ ἔστι μὲν
 ὁρατόν, οὐ καθ' αὐτὸ δὲ ὁρατὸν ὡς ἀπλῶς εἰπεῖν, ἀλλὰ δι' 5
 ἀλλότριον χρώμα. τοιοῦτον δὲ ἐστὶν ἀήρ καὶ ὕδωρ καὶ πολλὰ
 τῶν στερεῶν· οὐ γὰρ ἦ ὕδωρ οὐδ' ἦ ἀήρ διαφανές, ἀλλ' ὅτι
 ἐστὶ τις φύσις ὑπάρχουσα ἡ αὐτὴ ἐν τούτοις ἀμφοτέροις καὶ
 ἐν τῷ αἰδίῳ τῷ ἄνω σώματι. φῶς δὲ ἐστὶν ἡ τούτου ἐνέργεια
 τοῦ διαφανοῦς ἢ διαφανές. δυνάμει δὲ ἐν τῷ τοῦτ' ἐστὶ, καὶ τὸ 10
 σκότος. τὸ δὲ φῶς οἷον χρώμα ἐστὶ τοῦ διαφανοῦς, ὅταν ἦ
 ἐντελεχεία διαφανές ὑπὸ πυρὸς ἢ τοιούτου οἷον τὸ ἄνω
 σῶμα· καὶ γὰρ τούτῳ τι ὑπάρχει ἐν καὶ ταυτόν. τί μὲν οὖν
 τὸ διαφανές καὶ τί τὸ φῶς, εἴρηται, ὅτι οὔτε πῦρ οὔθ' ὅλως
 σῶμα οὐδ' ἀπορροή σώματος οὐδενός (εἴη γὰρ ἂν σῶμά τι καὶ 15
 οὕτως), ἀλλὰ πυρὸς ἢ τοιούτου τινὸς παρουσία ἐν τῷ διαφα-
 νεῖ· οὐδὲ γὰρ δύο σώματα ἅμα δυνατὸν ἐν τῷ αὐτῷ εἶναι.

28. μάλιστα om. SUX.
 ἕλος κρύσταλλος. οὐ T et margo U.
 ἐνυπάρχουσα SUVX. Bekk. Trend.

418^b 3. ὁραταί ETy Tor.

7. στερεῶν οἷον

8. τις om. ESTVW Bekk. Trend. ||

11. ἦ om. E.

CHAPTER VII.

Sight then has for its object what is visible. This visible itself is colour and something which may be described, although there is no one term by which to name it—its nature will be evident as we proceed. Meanwhile, let us repeat, the visible is colour. This is that which diffuses itself over what is visible in itself, meaning by ‘in itself’ not that it is so in its very conception, but that it contains within itself the reason of its being visible. Now every colour is disposed to set in movement that which is actually pellucid, this being in fact its nature. Hence colour is not visible without light: the colour on the contrary of every object is only visible in light. And accordingly something must be said in the first place about the character of light.

There is then, we may begin by saying, something which is pellucid. And by pellucid is meant something which is visible, not visible by itself (to speak without further qualification), but visible by reason of some foreign colour which affects its neutral pellucidity. Of this character are air and water and also many among solid bodies, water and air being pellucid not in virtue of their qualities as water or air, but because they both contain the same element as constitutes the everlasting empyrean essence. Light then is the expression of this pellucid *qua* pellucid: and whenever this pellucidity is present only potentially, there darkness also is present. Light is thus almost as it were the colour of the pellucid when it is realized into full pellucidity by fire or something like the upper substance of the heavens, this upper substance possessing one and the same element with fire. Thus then we have described pellucidity and light: and have shewn light to be neither fire, nor body generally, nor even the effluvium or emanation from any body (since even in this case it would be a body of a kind) but only the presence of fire or something like it in that which is pellucid: two bodies being unable to exist at one and the same time within the same space.

- § 3 δοκεῖ τε τὸ φῶς ἐναντίον εἶναι τῷ σκότει· ἔστι δὲ τὸ σκότος στέρησις τῆς τοιαύτης ἕξεως ἐκ διαφανοῦς, ὥστε δῆλον ὅτι καὶ ἡ τούτου παρουσία τὸ φῶς ἐστίν. καὶ οὐκ ὀρθῶς Ἐμπε-²⁰ δοκλῆς, οὐδ' εἴ τις ἄλλος οὕτως εἶρηκεν, ὡς φερομένου τοῦ φωτὸς καὶ γιγνομένου ποτὲ μεταξὺ τῆς γῆς καὶ τοῦ περιέχοντος, ἡμᾶς δὲ λανθάνοντος· τοῦτο γάρ ἐστι καὶ παρὰ τὴν ἐν τῷ λόγῳ ἀλήθειαν καὶ παρὰ τὰ φαινόμενα. ἐν μικρῷ μὲν γὰρ διαστήματι λάθοι ἄν, ἀπ' ἀνατολῆς δ' ἐπὶ²⁵
- § 4 δυσμᾶς τὸ λανθάνειν μέγα λίαν τὸ αἴτημα. ἔστι δὲ χρώματος μὲν δεκτικὸν τὸ ἄχρουν, ψόφου δὲ τὸ ἄψοφον. ἄχρουν δ' ἐστὶ τὸ διαφανὲς καὶ τὸ ἀόρατον ἢ τὸ μόλις ὀρώμενον, οἷον δοκεῖ τὸ σκοτεινόν. τοιοῦτον δὲ τὸ διαφανὲς μὲν, ἀλλ' οὐχ ὅταν ἢ ἐντελεχεία διαφανές, ἀλλ' ὅταν δυ-³⁰ νάμει· ἡ γὰρ αὕτη φύσις ὅτε μὲν σκότος ὅτε δὲ φῶς ἐστίν. οὐ πάντα δὲ ὀρατὰ ἐν φωτὶ ἐστίν, ἀλλὰ μόνον ἐκάστου⁴¹⁹ τὸ οἰκείον χρώμα· ἔνια γὰρ ἐν μὲν τῷ φωτὶ οὐχ ὀράται ἐν δὲ τῷ σκότει ποιεῖ αἰσθησιν, οἷον τὰ πυρώδη φαινόμενα καὶ λάμποντα (ἀνώνυμα δ' ἐστὶ ταῦτα ἐνὶ ὀνόματι), οἷον μύκης, κέρας, κεφαλαὶ ἰχθύων καὶ λεπίδες καὶ ὀφθαλ-⁵ μοί· ἀλλ' οὐδενὸς ὀράται τούτων τὸ οἰκείον χρώμα. δι' ἣν
- § 5 μὲν οἷν αἰτίαν ταῦτα ὀράται, ἄλλος λόγος. νῦν δ' ἐπὶ το-
σοῦτον φανερόν ἐστιν, ὅτι τὸ μὲν ἐν φωτὶ ὀρώμενον χρώμα. διὸ καὶ οὐχ ὀράται ἄνευ φωτός· τοῦτο γὰρ ἦν αὐτὸ τὸ χρώματι εἶναι τὸ κινητικῶς εἶναι τοῦ κατ' ἐνέργειαν διαφα-¹⁰ νοῦς· ἡ δ' ἐντελέχεια τοῦ διαφανοῦς φῶς ἐστίν. σημείον δὲ τούτου φανερόν· ἔαν γάρ τις θῇ τὸ ἔχον χρώμα ἐπ' αὐτὴν τὴν ὄψιν, οὐκ ὄψεται· ἀλλὰ τὸ μὲν χρώμα κινεῖ τὸ δια-

18. τε] δὲ TUVX Trend.

22. τεινομένου EV.

24. τὴν τοῦ λόγου ἐνέργειαν

Tor. || τὴν τοῦ λόγου ETWwy || ἐνέργειαν TWy.

419^a 1. ὀράται X.

9.

καὶ om. EUW. || αὐτὸ] αὐτῷ Tor.

This explanation of light is confirmed by the ordinary view which regards light as the opposite of darkness. Darkness in fact is really the removal of such a positive quality from what is pellucid, so that light must necessarily be its presence. Empedocles therefore and any others who have followed him have not described the phenomenon correctly in speaking of the light as moving itself and as coming some time or other, without our knowing it, into existence between the earth and the surrounding air. Such a theory is contrary at once to reason and to experience. Within the limits of a narrow space, such a process might escape our observation : but to imply that it should do so from the rising to the setting sun is to make too great a postulate. It is in fact the colourless which is receptive of colour, just as it is the soundless which is receptive of sound. But such an absence of colour is characteristic of the pellucid and of the invisible or what is scarcely visible (as darkness is generally thought to be). And the pellucid itself is also similarly dark, but it is so not when it is pellucid in actuality, but only so potentially: for it is one and the same element which is at one time darkness, at another time light. It must not however be supposed that light is exclusively the condition of seeing things: it is so only for the peculiar colour of each object. There are in fact some things which are not visible in the light, but admit of being perceived in darkness, as for instance those phosphorescent objects which cannot be denoted by any one single name, but are such things as fungi, horns, fish-heads, scales and eyes—but in none of these is the colour specially belonging to them perceived in darkness. The reason of this is matter for another argument: at present this much is clear that what is perceived in light is colour.

Colour therefore is not visible without the presence of light: this indeed we saw was the essential character of colour that it is calculated to set the actually pellucid in movement: and the full play of this pellucid constitutes light. It is an obvious proof of the existence of this pellucid that if the object be placed close upon the very eye, this object will not be seen. The colour in fact moves the pellucid substance, for instance

φανές, οἷον τὸν ἀέρα, ὑπὸ τούτου δὲ συνεχοῦς ὄντος κινεῖται
 § 6 τὸ αἰσθητήριον. οὐ γὰρ καλῶς τοῦτο λέγει Δημόκριτος οἰό- 15
 μενος, εἰ γένοιτο κενὸν τὸ μεταξύ, ὁρᾶσθαι ἂν ἀκριβῶς καὶ
 εἰ μύρμηξ ἐν τῷ οὐρανῷ εἴη· τοῦτο γὰρ ἀδύνατόν ἐστιν. πά-
 σχοντος γάρ τι τοῦ αἰσθητικοῦ γίνεται τὸ ὁρᾶν· ὑπ' αὐτοῦ
 μὲν οὖν τοῦ ὁρωμένου χρώματος ἀδύνατον, λείπεται δὲ ὑπὸ
 τοῦ μεταξύ, ὥστ' ἀναγκαῖόν τι εἶναι μεταξύ· κενοῦ δὲ γενο- 20
 § 7 μένου οὐχ ὅτι ἀκριβῶς, ἀλλ' ὅλως οὐθὲν ὀφθῆσεται. δι' ἣν
 μὲν οὖν αἰτίαν τὸ χρῶμα ἀναγκαῖον ἐν φωτὶ ὁρᾶσθαι, εἴρη-
 ται. πῦρ δὲ ἐν ἀμφοῖν ὁρᾶται, καὶ ἐν σκότει καὶ ἐν φωτί,
 καὶ τοῦτο ἐξ ἀνάγκης· τὸ γὰρ διαφανὲς ὑπὸ τούτου γίνεται
 § 8 διαφανές. ὁ δ' αὐτὸς λόγος καὶ περὶ ψόφου καὶ ὁσμῆς 25
 ἐστίν· οὐθὲν γὰρ αὐτῶν ἀπτόμενον τοῦ αἰσθητηρίου ποιεῖ τὴν
 αἴσθησιν, ἀλλ' ὑπὸ μὲν ὁσμῆς καὶ ψόφου τὸ μεταξύ κι-
 νεῖται, ὑπὸ δὲ τούτου τῶν αἰσθητηρίων ἐκάτερον· ὅταν δ' ἐπ'
 αὐτό τις ἐπιθῇ τὸ αἰσθητήριον τὸ ψοφοῦν ἢ τὸ ὄζον, οὐδεμίαν
 αἴσθησιν ποιήσῃ. περὶ δὲ ἀφῆς καὶ γεύσεως ἔχει μὲν 30
 ὁμοίως, οὐ φαίνεται δέ· δι' ἣν δ' αἰτίαν, ὕστερον ἔσται δῆλον.
 § 9 τὸ δὲ μεταξύ ψόφων μὲν ἀήρ, ὁσμῆς δ' ἀνώνυμον· κοινὸν
 γὰρ δὴ τι πάθος ἐπ' αἵρος καὶ ὕδατός ἐστιν, ὥσπερ τὸ δια-
 φανὲς χρώματι, οὕτω τῷ ἔχοντι ὁσμὴν ὃ ἐν ἀμφοτέροις
 ὑπάρχει τούτοις· φαίνεται γὰρ καὶ τὰ ἐνυδρα τῶν ζώων 35
 ἔχειν αἴσθησιν ὁσμῆς. ἀλλ' ὁ μὲν ἄνθρωπος καὶ τῶν πεζῶν 419
 ὅσα ἀναπνέει, ἀδυνατεῖ ὁσμάσθαι μὴ ἀναπνέοντα. ἡ δ' αἰτία
 καὶ περὶ τούτων ὕστερον λεχθήσεται. νῦν δὲ πρῶτον περὶ
 ψόφου καὶ ἀκοῆς διορίσωμεν.

14. δὲ] δὴ ETW.
 μεταξύ om. SUX.

18. αἰσθητηρίου VW.
 33. δὴ om. SUVWX.

19. δὴ ETW.
 419^b 4. ἀκοῆς] ὁσφρήσεως EWXY.

20. ὥστ'—

the air, and it is only through this as it extends from the object to the sense that motion can be communicated to the visual organ.

Democritus is therefore not at all correct in thinking, as he does, that if the intermediate space were empty, everything would be fully seen, even an ant should there be one in the sky. This is really an impossibility. Vision is the result of some impression made upon the faculty of sense: an impression which cannot be effected by the colour itself as perceived; and must therefore be due to the medium which intervenes. An intervening substance then of one kind or another there must necessarily be: and were this intervening space made empty, not only will the object not be seen exactly, but it will not be perceived at all.

We have thus shewn why colour must be seen in light. Fire is seen under both conditions, both in darkness and in light: and this necessarily: for it is by means of fire that the potentially pellucid becomes so actually.

This same account holds good likewise of sound and smell. Neither produces perception by actual contact with the organ: the scent and the sound move the intervening medium: and this medium moves in turn each of the two sense-organs. Thus, in this case also, if the sonorous or odorous object be placed close upon the organ itself, it will produce no perception. Nor is this true only of these senses: it is really the case with touch and taste as well, though apparently it is not so—a fact of which the reason will be afterwards evident. This intervening medium is in the case of sound air, in the case of smell it is some element found both in air and water which has no name assigned it, but which, just as the pellucid serves as medium in the case of colour, so in the case of what possesses smell is present as a common quality in both of these. And thus it is that even animals which live in water seem to possess the sense of smell: man and all other animals that breathe cannot smell unless when inhaling air. The reason of this will be stated afterwards: for the present we must first proceed to determine the nature of sound and hearing.

- § 1 VIII. Ἔστι δὲ διττὸς ὁ ψόφος· ὁ μὲν γὰρ ἐνέργειά τις, ὁ 5
δὲ δύνάμις· τὰ μὲν γὰρ οὐ φαμεν ἔχειν ψόφον, οἷον σπόγγον,
ἔρια, τὰ δ' ἔχειν, οἷον χαλκὸν καὶ ὅσα στερεὰ καὶ λεῖα, ὅτι
δύναται ψοφῆσαι. τοῦτο δ' ἐστὶν αὐτοῦ μεταξὺ καὶ τῆς ἀκοῆς
- § 2 ἐμποιῆσαι ψόφον ἐνέργειᾳ. γίνεται δ' ὁ κατ' ἐνέργειαν ψό-
φος αἰεί τινος πρὸς τι καὶ ἔν τινι· πληγὴ γάρ ἐστίν ἡ ποι- 10
οῦσα. διὸ καὶ ἀδύνατον ἐνὸς ὄντος γενέσθαι ψόφον· ἕτερον
γὰρ τὸ τύπτον καὶ τὸ τυπτόμενον· ὥστε τὸ ψοφοῦν πρὸς τι
ψοφεῖ. πληγὴ δ' οὐ γίνεται ἄνευ φορᾶς. ὥσπερ δ' εἵπομεν,
οὐ τῶν τυχόντων πληγὴ ὁ ψόφος· οὐθένα γὰρ ποιεῖ ψόφον
ἔρια ἂν πληγῇ, ἀλλὰ χαλκὸς καὶ ὅσα λεῖα καὶ κοῖλα, 15
ὁ μὲν χαλκός, ὅτι λεῖος· τὰ δὲ κοῖλα τῇ ἀνακλάσει πολ-
λὰς ποιεῖ πληγὰς μετὰ τὴν πρώτην, ἀδυνατοῦντος ἐξελθεῖν
τοῦ κινηθέντος. ἔτι ἀκούεται ἐν ἀέρι καὶ ὕδατι, ἀλλ' ἥττον.
- § 3 οὐκ ἔστι δὲ ψόφου κύριος ὁ αἷρ οὐδὲ τὸ ὕδωρ· ἀλλὰ δεῖ στε-
ρεῶν πληγὴν γενέσθαι πρὸς ἄλληλα καὶ πρὸς τὸν αἶρα. 20
τοῦτο δὲ γίνεται, ὅταν ὑπομένῃ πληγεῖς ὁ αἷρ καὶ μὴ δια-
χυθῇ. διὸ ἐὰν ταχέως καὶ σφοδρῶς πληγῇ, ψοφεῖ· δεῖ γὰρ
φθάσαι τὴν κίνησιν τοῦ ραπίζοντος τὴν θρύψιν τοῦ αἵρος,
ὥσπερ ἂν εἰ σωρὸν ἢ ὄρμαθὸν ψάμμου τύπτοι τις φερόμε-
- § 4 νον ταχύ. ἡχὼ δὲ γίνεται, ὅταν ἀπὸ τοῦ αἵρος ἐνὸς γενομέ- 25
νον διὰ τὸ ἀγγεῖον τὸ διορίσαν καὶ κωλύσαν θρυφθῆναι
πάλιν ὁ αἷρ ἀπωσθῇ, ὥσπερ σφαῖρα. εἵκοι δ' αἰεὶ γίνεσθαι
ἡχῶ, ἀλλ' οὐ σαφές, ἐπεὶ συμβαίνει γε ἐπὶ τοῦ ψόφου

5. ἐνέργειᾳ Tor. 6. δυνάμει E Tor. 15. ἔριον ἢ πατάξαν ἢ πληγὴν, ἀλλὰ VX
marg. U. 24. ἂν om. STUX. 25. ἀπο τοῦ om. SUVX Tor.

CHAPTER VIII.

Sound may be regarded from two aspects, either as potential or as actual : for there are some things which we say have no sound, as for example sponge and wool, whereas we say that others have, as for example bronze and all hard and smooth substances, because they possess potentially the power of making sound : that is, they are able actually to create a sound between the thing sounding and the sense of hearing. As for actual sound, it is always of something on something and within something, for it is a stroke which produces sound. Hence also it is impossible for sound to take place with only one object ; since the object striking must be different from the object struck. Thus the object sounding sounds upon something : and the stroke does not take place without some movement. It is not however, as has been already said, the striking of any object whatever that produces sound : wool, for instance, produces no sound when struck, but bronze and all objects that are smooth and hollow do so. Bronze does so because it is smooth : hollow substances produce many sounds after the first blow, from their reverberation, because the air that has been put in movement cannot find an exit. Further, sound is heard in air, and in a less degree in water. It is however neither air nor water that is the essential condition of sound : there must be a percussion of solid bodies against each other and also against the air, as happens when the air that has been struck remains and is not dissipated. Thus the air emits a sound if it be struck quickly and vehemently : that is, the movement of the person striking must precede the dispersion of the air, just in the same way as one would have to strike quickly a heap or line of sand in motion so as to anticipate its dispersion.

An echo is formed when, from air which has been compressed into one mass by some receptacle which has bounded it and prevented it from being dissipated, the air constituting sound is repelled back again, just as a ball may be made to rebound. It appears in fact that an echo is always formed, though it is not always distinct and audible : and this is because the same thing

καθάπερ καὶ ἐπὶ τοῦ φωτός· καὶ γὰρ τὸ φῶς αἰὲ ἀνακλᾶται (οὐδὲ γὰρ ἂν ἐγίνετο πάντα φῶς, ἀλλὰ σκότος ἔξω τοῦ 30 ἡλιουμένου), ἀλλ' οὐχ οὕτως ἀνακλᾶται ὥσπερ ἀφ' ὕδατος ἢ χαλκοῦ ἢ καὶ τινος ἄλλου τῶν λείων, ὥστε σκιὰν ποιεῖν, § 5 ἢ τὸ φῶς ὀρίζομεν. τὸ δὲ κενὸν ὀρθῶς λέγεται κύριον τοῦ ἀκούειν. δοκεῖ γὰρ εἶναι κενὸν ὁ ἀήρ, οὗτος δ' ἐστὶν ὁ ποιῶν ἀκούειν, ὅταν κινηθῇ συνεχῆς καὶ εἰς. ἀλλὰ διὰ τὸ ψαθυρὸς 35 εἶναι οὐ γεγωνεῖ, ἂν μὴ λείον ἢ τὸ πληγέν. τότε δὲ εἰς γί- 420^a νεται ἅμα διὰ τὸ ἐπίπεδον· ἐν γὰρ τὸ τοῦ λείου ἐπίπεδον. § 6 ψοφητικὸν μὲν οὖν τὸ κινητικὸν ἐνὸς ἀέρος συνεχεῖα μέχρις ἀκοῆς, ἀκοῇ δὲ συμφυῆς ἀέρι. διὰ δὲ τὸ ἐν ἀέρι εἶναι, κινουμένου τοῦ ἔξω τὸ εἶσω κινεῖ. διόπερ οὐ πάντα τὸ ζῶον ἀκούει, 5 οὐδὲ πάντα διέρχεται ὁ ἀήρ· οὐ γὰρ πάντα ἔχει ἀέρα τὸ κινησόμενον μέρος καὶ ἔμψυχον. αὐτὸ μὲν δὴ ἀψοφον ὁ ἀήρ διὰ τὸ εὐθρυπτον· ὅταν δὲ κωλυθῇ θρύπτεσθαι, ἢ τούτου κίνησις ψόφος. ὁ δ' ἐν τοῖς ὡσὶν ἐγκατωκοδόμηται πρὸς τὸ ἀκίνητος εἶναι, ὅπως ἀκριβῶς αἰσθάνηται πάσας τὰς δια- 10 φορὰς τῆς κινήσεως. διὰ ταῦτα δὲ καὶ ἐν ὕδατι ἀκούομεν, ὅτι οὐκ εἰσέρχεται πρὸς αὐτὸν τὸν συμφυῆ ἀέρα· ἀλλ' οὐδ' εἰς τὸ οὗς διὰ τὰς ἑλικας. ὅταν δὲ τοῦτο συμβῇ, οὐκ ἀκούει· οὐδ' ἂν ἢ μῆνιγξ κάμη, ὥσπερ τὸ ἐπὶ τῇ κόρῃ δέρμα ὅταν κάμη. ἀλλὰ καὶ σημεῖον τοῦ ἀκούειν ἢ μὴ τὸ 15

30. οὐ STUVX Ald. 420^a 4. ἀκοῇ δὲ συμφυῆς ἀήρ Wy. Tor. 5. ὁ εἶσω κινεῖται Tor., ὁ ETW, κινεῖται EUX. 7. ἔμψυχον] conī. Tor. ἔμψοφον. || ὥσπερ ἢ κόρη τὸ ὑγρόν post ἔμψ. add. W et marg. U. 15. ὅταν κάμη om. EWy.

happens to sound as happens also in the case of light. For light never ceases to be reflected: otherwise there would not be everywhere light, but (with the exception of that spot on which the sun's rays directly fall) darkness: only while light is thus continually reflected, it is not reflected in the same way as it is from water or bronze or any other polished substance, so as to produce the shadow, by which light is bounded.

Vacuum or empty space is rightly said by some to be the indispensable vehicle of hearing: for the air is held to be empty, and it is this which causes hearing when it is put in movement as one continuous and connected body. At the same time, by reason of the easy dissipation of the air, no sound whatever is produced unless the object struck be smooth and polished: in which case the air is made, through the even surface, one throughout, because the surface of every smooth body is one.

Every object then so constituted as to set in movement the air extending continuously in one stream until it reach the hearing is sonorous, and hearing is itself attached by nature to the air: and because the sound is in the air, the movement of the air without sets in movement the air which is within. And hence an animal does not possess the sense of hearing in all parts of its body, nor does the air penetrate it at all places, because the organ which requires to move itself and is endowed with psychical capacity does not find everywhere that air on which its exercise depends. Thus then in itself the air is by reason of its ready dissipation soundless: but when it is prevented from dispersion, the movement of this compressed air produces sound. And the air contained within the ears is lodged deeply in them so that it may remain unmoved, and may thus perceive exactly all the different kinds of movement. Hence also the reason why we can hear in water, viz. because the water does not enter into the congenital air itself, nor even, in consequence of the convolutions, into the ear itself: indeed, when this does happen, hearing becomes impossible. Nor again is hearing possible in case the membrane of the ear becomes exhausted, just as similarly vision is destroyed when the hard covering or cornea of the pupil is impaired. (It is in fact a test as to whether

ἡχεῖν αἰεὶ τὸ οὗς ὥσπερ τὸ κέρασ· αἰεὶ γὰρ οἰκείαν τινὰ κίνησιν ὁ ἀὴρ κινεῖται ὁ ἐν τοῖς ὠσίν· ἀλλ' ὁ ψόφος ἀλλότριος καὶ οὐκ ἴδιος. καὶ διὰ ταῦτό φασιν ἀκούειν τῷ κενῷ καὶ
 § 7 ἡχοῦντι, ὅτι ἀκούομεν τῷ ἔχοντι ὠρισμένον τὸν ἀέρα. πότερον δὲ ψοφεῖ τὸ τυπτόμενον ἢ τὸ τύπτον; ἢ καὶ ἄμφω, τρό- 20 πον δ' ἕτερον· ἔστι γὰρ ὁ ψόφος κίνησις τοῦ δυναμένου κινεῖσθαι τὸν τρόπον τοῦτον ὥνπερ τὰ ἀφαλλόμενα ἀπὸ τῶν λείων, ὅταν τις κρούσῃ. οὐ δὴ πᾶν, ὥσπερ εἴρηται, ψοφεῖ τυπτόμενον καὶ τύπτον, οἷον ἐὰν πατάξῃ βελόνῃ βελόνῃ· ἀλλὰ δεῖ τὸ τυπτόμενον ὁμαλὸν εἶναι, ὥστε τὸν ἀέρα ἀθροῦν 25
 § 8 ἀφάλλεσθαι καὶ σείεσθαι. αἱ δὲ διαφοραὶ τῶν ψοφούντων ἐν τῷ κατ' ἐνέργειαν ψόφῳ δηλοῦνται· ὥσπερ γὰρ ἄνευ φωτὸς οὐχ ὁράται τὰ χρώματα, οὕτως οὐδ' ἄνευ ψόφου τὸ ὀξύ καὶ τὸ βαρύν. ταῦτα δὲ λέγεται κατὰ μεταφορὰν ἀπὸ τῶν ἀπτῶν· τὸ μὲν γὰρ ὀξύ κινεῖ τὴν αἴσθησιν ἐν ὀλίγῳ 30 χρόνῳ ἐπὶ πολὺ, τὸ δὲ βαρὺ ἐν πολλῷ ἐπ' ὀλίγον. οὐ δὴ ταχὺ τὸ ὀξύ, τὸ δὲ βαρὺ βραδύ, ἀλλὰ γίνεται τοῦ μὲν διὰ τὸ τάχος ἢ κίνησις τοιαύτη, τοῦ δὲ διὰ βραδυτῆτα. καὶ ἔοικεν ἀνάλογον ἔχειν τῷ περὶ τὴν ἀφήν ὀξεῖ καὶ ἀμ- 420^b
 βλεῖ· τὸ μὲν γὰρ ὀξύ οἷον κεντεῖ, τὸ δ' ἀμβλὺ οἷον ὠθεῖ διὰ τὸ κινεῖν τὸ μὲν ἐν ὀλίγῳ, τὸ δὲ ἐν πολλῷ, ὥστε συμβαίνει τὸ μὲν ταχὺ τὸ δὲ βραδὺ εἶναι. περὶ μὲν οὖν ψόφου
 § 9 ταύτῃ διωρίσθω. ἢ δὲ φωνὴ ψόφος τίς ἐστὶν ἐμπύχου· τῶν 5 γὰρ ἀψύχων οὐθὲν φωνεῖ, ἀλλὰ καθ' ὁμοιότητα λέγεται

16. αἰεὶ om. SVX.

19. τὸν om. SUVX.

24. καὶ τύπτον om. SUV.

31. ἐπ' om. SUVWy. || οὐ δὴ] ὥστε οὐχί TW, ὥστε οὐδὲ F.

420^b 3. συμ-

βαίνειν ES.

we hear or not if the ear continues to sound just like a horn : for the air contained within the ears [though undisturbed as we have seen by outer things] is moved perpetually with some peculiar movement of its own : although the noise coming from outside is something external to the ear and not peculiar to it.) It is then on this account that it is said we hear by means of something void and resonant, because we hear by means of that which contains the air confined within it.

Whether then, we may ask, is it the object striking or the object struck that makes the noise ? May we reply that it is both, though each in a different manner ? for sound is the movement of anything that can be moved in the same manner as those particles which bound off from smooth surfaces when struck. Everything however, as has been said, does not sound when striking and when struck : for example, a pin does not when struck by another pin : it is necessary that the thing struck should be smooth and even, so that the air may bound off and be agitated in a mass.

The different qualities of sonorous objects are displayed in the actual sounds which they emit. For, just as colours are not visible without light, so in like manner it is impossible to distinguish the acute note and the grave independently of sound. These terms are applied metaphorically from the analogy of objects of touch, the acute or high note moving the sense to a great degree within a short space of time, the grave or low to a small degree within a large extent of time. Thus then it is not a correct account to say that the sharp is rapid or the heavy slow : but the celerity of the action leads to a rapid movement in the one case, just as the tardiness leads to a slow movement in the other. And there does seem to be an analogy between these two forms of sound and the sharp and blunt as perceived by touch : for the sharp pierces, as we may say, while the blunt, as it were, pushes, the one producing its movement in a short, the other in a large expanse of time, and thus as a result the one comes to be quick, the other to be slow. Thus much then on sound in general.

Voice is the sound produced by an animate being : no inanimate object being said to *speak* except in virtue of the

φωνεῖν, οἷον αὐλὸς καὶ λύρα καὶ ὅσα ἄλλα τῶν ἀψύχων ἀπότασιν ἔχει καὶ μέλος καὶ διάλεκτον· ἔοικε γὰρ ὅτι καὶ ἡ φωνὴ ταύτ' ἔχει. πολλὰ δὲ τῶν ζώων οὐκ ἔχουσι φωνήν, οἷον τὰ τε ἀναιμα καὶ τῶν ἐναίμων ἰχθύες· ἀλλ' 10 οἱ λεγόμενοι φωνεῖν, οἷον ἐν τῷ Ἀχελῷῳ, ψοφοῦσι τοῖς βραγχίοις ἢ τινι ἐτέρῳ τοιούτῳ. καὶ τοῦτ' εὐλόγως, εἴπερ § 10 αἶρος κίνησίς τις ἐστὶν ὁ ψόφος· φωνή δ' ἐστὶ ζώου ψόφος, καὶ οὐ τῷ τυχόντι μορίῳ. ἀλλ' ἐπεὶ πᾶν ψοφεῖ τύπτοντός τινος καὶ τι καὶ ἐν τινι, τοῦτο δ' ἐστὶν ἀήρ, εὐλόγως ἂν 15 φωνοίῃ ταῦτα μόνα ὅσα δέχεται τὸν αἶρα. ἡδὴ γὰρ τῷ ἀναπνεομένῳ καταχρῆται ἡ φύσις ἐπὶ δύο ἔργα, καθάπερ τῇ γλώττῃ ἐπὶ τε τὴν γεῦσιν καὶ τὴν διάλεκτον, ὣν ἡ μὲν γεῦσις ἀναγκαῖον (διὸ καὶ πλείοσιν ὑπάρχει), ἡ δ' ἐρμη- νεῖα ἔνεκα τοῦ εὐ, οὕτω καὶ τῷ πνεύματι πρὸς τε τὴν θερ- 20 μότητα τὴν ἐντὸς ὡς ἀναγκαῖον (τὸ δ' αἷτιον ἐν ἐτέροις § 11 εἰρήσεται) καὶ πρὸς τὴν φωνήν, ὅπως ὑπάρχῃ τὸ εὐ. ὄργανον δὲ τῇ ἀναπνοῇ ὁ φάρυγξ· οὗ δ' ἔνεκα καὶ τὸ μόριόν ἐστὶ τοῦτο, πλεύμων· τούτῳ γὰρ τῷ μορίῳ πλείστον ἔχει τὸ θερμὸν τὰ περὶ τῶν ἄλλων. δεῖται δὲ τῆς ἀναπνοῆς καὶ 25 ὁ περὶ τὴν καρδίαν τόπος πρῶτος. διὸ ἀναγκαῖον εἶσω ἀναπνεομένου εἰσιέναι τὸν αἶρα. ὥστε ἡ πληγὴ τοῦ ἀναπνεομένου αἶρος ὑπὸ τῆς ἐν τούτοις τοῖς μορίοις ψυχῆς πρὸς τὴν καλουμένην ἀρτηρίαν φωνὴ ἐστίν. οὐ γὰρ πᾶς ζώου ψόφος φωνή, καθάπερ εἴπομεν (ἐστὶ γὰρ καὶ τῇ γλώττῃ ψοφεῖν καὶ 30 ὡς οἱ βήττοντες), ἀλλὰ δεῖ ἐμψυχόν τε εἶναι τὸ τύπτον καὶ μετὰ φαντασίας τινός· σημαντικὸς γὰρ δὴ τις ψόφος ἐστὶν ἡ φωνή, καὶ οὐ τοῦ ἀναπνεομένου αἶρος, ὥσπερ ἡ βήξ·

8. γὰρ] δὲ SUV. 10. ἰχθύες· ἀλλ'] Vulg. ἰχθύες· καὶ τοῦτ' εὐλόγως... ψόφος. ἀλλ' οἱ λεγόμενοι... τοιούτῳ. 13. τίς om. SUVX. 20. ἔνεκεν STUVWX. 22. ὑπάρχοι EV. 24. πνεύμων STUVWX. 28. ψυχικῆς δυνάμεως πρὸς W. 33. βῆξις ET.

similarity between it and the human voice, as is for instance the case with pipe and lyre and all other inanimate objects which possess those qualities of pitch and measure and articulation which seem to characterize the human voice also. Many animals however do not have a voice, as is the case with all bloodless animals, and is among sanguineous species the case with fishes—those which are said to speak, as is the case with the fishes in the *Achelous*, only in reality making a noise with their gills or with something of this kind. And this is only what might have been expected. Sound indeed is but a movement of the air: but voice is the sound of a living being, and this too not with any chance part of the body. But as sound is always the result of something striking something else and doing so in something, viz. air, it follows that it is only those objects which take in air that possess a voice. Now nature uses the air which has been inspired for two functions, just as it employs the tongue at once for tasting and articulation—functions of which the one, viz. taste, is necessary, and thus belongs to the majority of animals, whereas the other, i.e. intelligible speech, is for ideal ends. In this same manner, nature employs the breath at once to regulate the internal heat as something necessary (a fact of which the reason will be stated elsewhere), and also to frame speech or voice as something contributing to our nobler ends in life.

To inhale this breath the organ we employ is the throat, and this itself is subservient to another part, the lungs. It is in fact by means of this part that land animals possess more heat than others. Now the region round about the heart first stands in need of inhalation: and therefore on inspiration air necessarily presses in. And so the inhaled air when the vital principle in these parts of the organism strikes it against the so-called windpipe is what makes a vocal utterance. For, as has been said, all the sounds made by animals are not vocal: it is possible to make a noise even with the tongue or in the way that people do in coughing: for voice, on the contrary, the organ striking must be animate and must be accompanied by some mental image. Voice, in fact, is sound possessed of meaning: it is not merely a reaction against the air inhaled, as is the case with

§ 12 ἀλλὰ τούτῳ τύπτει τὸν ἐν τῇ ἀρτηρίᾳ πρὸς αὐτήν. σημεῖον 421
 δὲ τὸ μὴ δύνασθαι φωνεῖν ἀναπνέοντα μῆδ' ἐκπνέοντα,
 ἀλλὰ κατέχοντα· κινεῖ γὰρ τοῦτο ὁ κατέχων. φανερόν δὲ
 καὶ διότι οἱ ἰχθύες ἄφωνοι· οὐ γὰρ ἔχουσι φάρυγγα. τοῦτο
 δὲ τὸ μόριον οὐκ ἔχουσιν, ὅτι οὐ δέχονται τὸν ἀέρα οὐδ' ἀνα- 5
 πνέουσιν. δι' ἣν μὲν οὖν αἰτίαν, ἕτερός ἐστι λόγος.

§ 1 IX. Περὶ δὲ ὁσμῆς καὶ ὁσφραντοῦ ἦττον εὐδιόριστόν ἐστι
 τῶν εἰρημένων· οὐ γὰρ δηλὸν ποῖόν τί ἐστιν ἡ ὁσμή, οὕτως ὥς
 ὁ ψόφος ἡ τὸ χρώμα. αἴτιον δ' ὅτι τὴν αἴσθησιν ταύτην οὐκ
 ἔχομεν ἀκριβῆ, ἀλλὰ χεῖρω πολλῶν ζώων· φαύλως γὰρ ἄν- 10
 θρωπος ὁσμάται, καὶ οὐθενὸς αἰσθάνεται τῶν ὁσφραντῶν ἄνευ
 τοῦ λυπηροῦ ἢ τοῦ ἡδέος, ὥς οὐκ ὄντος ἀκριβοῦς τοῦ αἰσθη-
 § 2 τηρίου. εὐλογον δ' οὕτω καὶ τὰ σκληρόφθαλμα τῶν χρωμά-
 των αἰσθάνεσθαι, καὶ μὴ διαδήλους αὐτοῖς εἶναι τὰς δια-
 φορὰς τῶν χρωμάτων πλὴν τῷ φοβερῷ καὶ ἀφόβῳ. οὕτω 15
 δὲ καὶ τὰς ὁσμάς τὸ τῶν ἀνθρώπων γένος· ἔοικε μὲν γὰρ
 ἀνάλογον ἔχειν πρὸς τὴν γεῦσιν καὶ ὁμοίως τὰ εἶδη τῶν
 χυμῶν τοῖς τῆς ὁσμῆς, ἀλλ' ἀκριβεστέραν ἔχομεν τὴν γεῦ-
 σιν διὰ τὸ εἶναι αὐτὴν ἀφήν τινα, ταύτην δ' ἔχειν τὴν αἰ-
 σθησιν τὸν ἀνθρώπον ἀκριβεστάτην· ἐν μὲν γὰρ ταῖς ἄλλαις 20
 λείπεται πολλῶν τῶν ζώων, κατὰ δὲ τὴν ἀφήν πολλῷ τῶν
 ἄλλων διαφερόντως ἀκριβοῖ. διὸ καὶ φρονιμώτατόν ἐστι τῶν
 ζώων. σημεῖον δὲ τὸ καὶ ἐν τῷ γένει τῶν ἀνθρώπων παρὰ
 τὸ αἰσθητήριον τοῦτο εἶναι εὐφυεῖς καὶ ἀφυεῖς, παρ' ἄλλο

421^a 1. τοῦτο X.

δὲ] γὰρ STUVW.

δι' SVW.

ὁσφραίνεται ETW Tor.

ἀφ. πολλῶν Bekk.

3. ἀλλὰ κατέχοντα om. E. || τούτῳ STUX. τούτῳ Tor. ||

5. ἀναπνέουσιν. ἀλλ' οἱ λέγοντες οὕτως ἀμαρτάνουσιν.

9. ψ. ἡ τὸ φῶς ἡ TWXy.

11. αἰσθ.]

21. λείπεται πολλῷ Bekk. ESUV Ald. || ἀφήν πολλῷ]

coughing : rather *with* this air we strike the air within the windpipe against the windpipe itself.

This explanation of the voice is confirmed by the fact that it is impossible to speak when inhaling air or respiring, but only when we hold the breath : because in checking thus the breath we move the air that has been taken in. This also explains why fishes are devoid of voice : viz. because they have no windpipe, this organ itself being absent because fishes do not inhale the air nor yet respire—a fact of which the reason must be discussed elsewhere.

CHAPTER IX.

Smell and its object are less easy to determine than the other senses which we have discussed : we do not see, in fact, what is the specific character of smell so clearly as we do that of sound or colour. The reason of this is that this sense is not developed in us to nearly the same degree of delicacy as it is in other animals. Man's sense of smell is really poor : he never perceives the scent of anything odoriferous unless when it is accompanied by either pleasure or pain—a fact which seems to point to a want of delicate exactness in the organ. It is, we may suppose, with similar limitations that hard-eyed animals perceive colours : we may imagine, that is, that they become conscious of the different kinds of colours only in so far as they create fear or its opposite : and it is in a correspondingly indirect fashion that men perceive smells. And thus, while the sense of smell is analogous to the sense of taste, and the specific kinds of flavour resemble the different sorts of odour, we possess the sense of taste in a condition of greater perfection, because taste is itself a species of the sense of touch : and in man the sense of touch reaches the greatest sensibility. As regards the other senses, man falls short of many animals : in touch he far surpasses them in the delicacy of his perceptions. Hence also man is the most intelligent of animals. A proof of this is that, within the human species, men are of good or bad natural parts in virtue of this very organ of sense and of no one other sense : the hard-fleshed

- δὲ μηδέν· οἱ μὲν γὰρ σκληρόσαρκοι ἀφνεῖς τὴν διάνοιαν, ²⁵
 § 3 οἱ δὲ μαλακόσαρκοι εὐφνεῖς. ἔστι δ' ὥσπερ χυμὸς ὁ μὲν
 γλυκὺς ὁ δὲ πικρὸς, οὕτω καὶ ὁσμάι. ἀλλὰ τὰ μὲν ἔχουσι
 τὴν ἀνάλογον ὁσμήν καὶ χυμόν, λέγω δὲ οἷον γλυκεῖαν
 ὁσμήν καὶ γλυκὺν χυμόν, τὰ δὲ τοῦναντίον. ὁμοίως δὲ καὶ
 δριμεῖα καὶ αὐστηρὰ καὶ ὀξεῖα καὶ λιπαρά ἐστὶν ὁσμή. ³⁰
 ἀλλ' ὥσπερ εἶπομεν, διὰ τὸ μὴ σφόδρα διαδήλους εἶναι
 τὰς ὁσμάς ὥσπερ τοὺς χυμούς, ἀπὸ τούτων εἴληφε τὰ ὀνό-
 ματα καθ' ὁμοιότητα τῶν πραγμάτων· ἡ μὲν γὰρ γλυκεῖα, ⁴²¹
 κρόκου καὶ μέλιτος, ἡ δὲ δριμεῖα, θύμου, καὶ τῶν τοιούτων·
 § 4 τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. ἔστι δ' ὥσπερ
 ἡ ἀκοὴ καὶ ἐκάστη τῶν αἰσθήσεων, ἡ μὲν τοῦ ἀκουστοῦ
 καὶ ἀνηκούστου, ἡ δὲ τοῦ ὁρατοῦ καὶ ἀοράτου, καὶ ἡ ὁσφρη- ⁵
 σις τοῦ ὁσφραντοῦ καὶ ἀνοσφράντου. ἀνόσφραντον δὲ τὸ μὲν
 παρὰ τὸ ὅλως ἀδύνατον ἔχειν ὁσμήν, τὸ δὲ μικρὰν ἔχον
 § 5 καὶ φαύλην. ὁμοίως δὲ καὶ τὸ ἄγευστον λέγεται. ἔστι δὲ
 καὶ ἡ ὁσφρησις διὰ τοῦ μεταξύ, οἷον ἀέρος ἢ ὕδατος· καὶ
 γὰρ τὰ ἔνυδρα δοκοῦσιν ὁσμῆς αἰσθάνεσθαι. ὁμοίως δὲ καὶ ¹⁰
 τὰ ἔναιμα καὶ τὰ ἄναιμα, ὥσπερ καὶ τὰ ἐν τῷ ἀέρι· καὶ
 γὰρ τούτων ἔνια πόρρωθεν ἀπαντᾷ πρὸς τὴν τροφήν ὑποσμα
 § 6 γινόμενα. διὸ καὶ ἄπορον φαίνεται, εἰ πάντα μὲν ὁμοίως
 ὁσμᾶται, ὁ δ' ἄνθρωπος ἀναπνέων μὲν, μὴ ἀναπνέων δὲ
 ἀλλ' ἐκπνέων ἢ κατέχων τὸ πνεῦμα οὐκ ὁσμᾶται, οὔτε ¹⁵
 πόρρωθεν οὔτ' ἐγγύθεν, οὔδ' ἂν ἐπὶ τοῦ μυκτῆρος ἐντὸς τετῆ.
 καὶ τὸ μὲν ἐπ' αὐτῷ τιθέμενον τῷ αἰσθητηρίῳ ἀναίσθητον
 εἶναι κοινὸν πάντων· ἀλλὰ τὸ ἄνευ τοῦ ἀναπνεῖν μὴ αἰσθά-
 νεσθαι ἴδιον ἐπὶ τῶν ἀνθρώπων· δηλὸν δὲ πειρωμένοις. ὥστε
 τὰ ἄναιμα, ἐπειδὴ οὐκ ἀναπνέουσιν, ἐτέραν ἂν τιν' αἰσθησιν ²⁰

421^b 2. κρόκου] ἀπὸ τοῦ κρόκου E. Trend. Bekk., ἀπὸ om. STUVWX. 8. καὶ
 τὸ φ. ETUV Tor. 10. ὁμοίως δὲ] δὲ om. ETW, ὁμοίως καὶ ἔναιμα Tor. 13.
 καὶ om. E. 14. μὴ ἀναπνέων δὲ om. SUVX. 15. ἀλλ' ἐκπνέων om. Wy.

being dull of understanding, while the soft-fleshed are gifted with good natural ability.

Smells are like flavours, one sweet, another bitter. While however, in some bodies smell and taste correspond, both for example being sweet, in others they are opposed to one another. There are also smells which are pungent, and harsh, and sharp, and oily. But as we have said, because smells are not so clearly distinguishable as flavours, they have received their names from these latter in virtue of the similarity in the things. Thus the smell of saffron and the smell of honey are alike called sweet, that of thyme and such-like objects is called pungent, and so similarly in other cases.

[There is a further point of resemblance on the part of smell.] Just as hearing perceives at once the audible and the inaudible, vision the visible and the invisible, and so also with each one of the other senses; smell similarly perceives at once the odorous and the inodorous, whether, as is the case also with what is tasteless, the object be inodorous because it is utterly impossible that it should have a smell, or simply because it has a faint and bad smell.

Like the other senses, smell also forms its perceptions through some intervening medium, as for example, air and water: for water-animals as well as land are held to have the sense of smell. This also is the case with blood-possessing and bloodless animals, and further with those which fly in air, many of them being brought from a great distance to their food after having smelled it. And hence in fact it appears to be a disputed question whether all animals smell in the same manner. Man only perceives a smell while inhaling the breath: when not inhaling but breathing it forth or checking it, he has no sense of smell, no matter whether the object be far away or close at hand, nor even if it should be placed on the inside of the nostril. And it is indeed a fact common to all animals that an object placed actually on the organ itself is not perceived: but the inability to perceive an odour without inhaling breath is a trait peculiar to man, as will in fact be found on trial. And thus, we might conclude, bloodless animals as not inhaling breath must have some other sense beyond those we have mentioned.

- ἔχει παρὰ τὰς λεγομένας. ἀλλ' ἀδύνατον, εἴπερ τῆς ὁσμῆς αἰσθάνεται· ἡ γὰρ αἴσθησις καὶ δυσώδους καὶ εὐώδους ὁσφρησίς ἐστιν. ἔτι δὲ καὶ φθειρόμενα φαίνεται ὑπὸ τῶν ἰσχυρῶν ὁσμῶν ὑφ' ὧν περ ἄνθρωπος, οἷον ἀσφάλτου καὶ θείου καὶ τῶν τοιούτων. ὁσφραίνεσθαι μὲν οὖν ἀναγκαῖον, 25
- § 7 ἀλλ' οὐκ ἀναπνέοντα. εἰκε δὲ τοῖς ἀνθρώποις διαφέρειν τὸ αἰσθητήριον τοῦτο πρὸς τὸ τῶν ἄλλων ζώων, ὥσπερ τὰ ὄμματα πρὸς τὰ τῶν σκληροφθάλμων· τὰ μὲν γὰρ ἔχει φράγμα καὶ ὥσπερ ἔλντρον τὰ βλέφαρα, ἃ μὴ κινήσας μὴδ' ἀνασπᾶσας οὐχ ὁρᾷ· τὰ δὲ σκληρόφθαλμα οὐδὲν 30 ἔχει τοιοῦτον, ἀλλ' εὐθέως ὁρᾷ τὰ γινόμενα ἐν τῷ διαφανεῖ. οὕτως οὖν καὶ τὸ ὁσφραντικὸν αἰσθητήριον τοῖς μὲν ἀκάλυφες εἶναι, ὥσπερ τὸ ὄμμα, τοῖς δὲ τὸν αέρα δεχο- 422^a μένοις ἔχειν ἐπικάλυμμά, ὃ ἀναπνεόντων ἀποκαλύπτεσθαι,
- § 8 διευρυνομένων τῶν φλεβίων καὶ τῶν πόρων. καὶ διὰ τοῦτο τὰ ἀναπνέοντα οὐκ ὁσμᾶται ἐν τῷ ὑγρῷ· ἀναγκαῖον γὰρ ὁσφρανθῆναι ἀναπνεύσαντα, τοῦτο δὲ ποιεῖν ἐν τῷ ὑγρῷ 5 ἀδύνατον. ἔστι δ' ἡ ὁσμή τοῦ ξηροῦ, ὥσπερ ὁ χυμὸς τοῦ ὑγροῦ· τὸ δὲ ὁσφραντικὸν αἰσθητήριον δυνάμει τοιοῦτον.
- § 1 X. Τὸ δὲ γευστόν ἐστιν ἄπτόν τι· καὶ τοῦτ' αἴτιον τοῦ μὴ εἶναι αἰσθητὸν διὰ τοῦ μεταξὺ ἀλλοτρίου ὄντος σώματος· οὐδὲ γὰρ ἡ ἀφή. καὶ τὸ σῶμα δὲ ἐν ᾧ ὁ χυμὸς, τὸ γευ- 10 στόν, ἐν ὑγρῷ ὡς ὕλη· τοῦτο δ' ἄπτόν τι. διὸ καὶ εἰ ἐν ὕδατι ἡμεν, ἡσθανόμεθ' ἂν ἐμβληθέντος τοῦ γλυκέος,
- § 2 οὐκ ἦν δ' ἂν ἡ αἴσθησις ἡμῶν διὰ τοῦ μεταξὺ, ἀλλὰ τῷ μιχθῆναι τῷ ὑγρῷ, καθάπερ ἐπὶ τοῦ ποτοῦ. τὸ δὲ χρώμα

22. ἡ γὰρ τοῦ ὁσφραντοῦ omnes libri. δυσώδης καὶ εὐώδης T. δυσ. καὶ εὐωδίας W.
 29. φρ.] πῶμα W. 31. εὐθὺς SUVX. 422^a 7. αἰσθ. τὸ δ. SUX. 11.
 ὕλη E (Trend.) Ald., Sylb., Simpl. καὶ SUVWX. 12. ἡμεν] εἰμεν E.
 Tor. || αἰσθανοίμεθα E. Bekk. Tor. 14. τῷ ὑγρῷ] τὸ ὑγρὸν W.

This, however, is impossible, so far as they actually have a sense of smell; and their perception of what is pleasant or disagreeable is the sense of smell. And further, such animals are found to be destroyed by the same violent odours as destroy men, such as asphalt and brimstone, and the like; so that (it follows) these bloodless animals must also have the sense of smell, although it be without inhaling breath.

There seems at the same time to be a difference between this organ as possessed by man and as possessed by other animals, similar to that between the visual organs of men and those of hard-eyed animals. The former have a protection and, as it were, an envelope in the eyelids, which must be moved and drawn apart in order to enable the animal to see, whereas hard-eyed animals have nothing of this kind but see at once what happens in the medium of the pellucid. Similarly the organ of smell is, in the case of some animals, uncovered just as is the eye, while, in the case of those inhaling air, it has a covering which is opened out on drawing breath, by the dilatation of the veins and pores. Hence animals that inhale air cannot perceive a smell in water, because in order to smell they must inhale and this is impossible in water. Smell, it should be added, is of what is dry, just as taste is of what is liquid, and the organ of the sense of smell is potentially of such a nature.

CHAPTER X.

Taste has for its object something tangible, and, for this reason, it is perceived as little as the object of touch through the medium of any foreign body. And the substance in which flavour lies—that is to say, the gustable—is contained in what is moist as its material substratum, and the moist itself is something tangible. Thus, were we in the water, and were any thing sweet cast into it, we should perceive it, the perception in this case being the result, not of the intervening medium, but simply of the mingling of the sweet thing with the water, as is the case with what we drink. Colour, however, is not perceived by a

οὐχ οὕτως ὁράται τῷ μίγνυσθαι, οὐδὲ ταῖς ἀπορροαῖς. ὥς 15
 μὲν οὖν τὸ μεταξὺ οὐθέν ἐστιν· ὥς δὲ χρώμα τὸ ὁρατόν, οὕτω
 τὸ γευστόν ὁ χυμός. οὐθέν δὲ ποιεῖ χυμοῦ αἰσθησιν ἄνευ
 ὑγρότητος, ἀλλ' ἔχει ἐνεργεία ἢ δυνάμει ὑγρότητα, οἷον τὸ
 ἀλμυρόν· εὐτηκτόν τε γὰρ αὐτὸ καὶ συντηκτικὸν γλώττης.

§ 3 ὥσπερ δὲ καὶ ἡ ὄψις ἐστὶ τοῦ τε ὁρατοῦ καὶ τοῦ ἀοράτου (τὸ 20
 γὰρ σκότος ἀόρατον, κρίνει δὲ καὶ τοῦτο ἡ ὄψις), ἔτι τοῦ
 λῖαν λαμπροῦ (καὶ γὰρ τοῦτο ἀόρατον, ἄλλον δὲ τρόπον τοῦ
 σκότους), ὁμοίως δὲ καὶ ἡ ἀκοὴ ψόφου τε καὶ σιγῆς, ὦν
 τὸ μὲν ἀκουστόν τὸ δ' οὐκ ἀκουστόν, καὶ μεγάλου ψόφου,
 καθάπερ ἡ ὄψις τοῦ λαμπροῦ· (ὥσπερ γὰρ ὁ μικρὸς ψόφος 25
 ἀνήκουστος, τρόπον τινὰ καὶ ὁ μέγας τε καὶ ὁ βίαιος·)
 ἀόρατον δὲ τὸ μὲν ὅλως λέγεται, ὥσπερ καὶ ἐπ' ἄλλων τὸ
 ἀδύνατον, τὸ δ', ἐὰν πεφυκὸς μὴ ἔχῃ ἢ φαύλως, ὥσπερ
 τὸ ἄπουν καὶ τὸ ἀπύρηνον· οὕτω δὴ καὶ ἡ γεῦσις τοῦ γευστοῦ
 τε καὶ ἀγεύστον· τοῦτο δὲ τὸ μικρὸν ἢ φαῦλον ἔχον χυμὸν 30
 ἢ φθαρτικὸν τῆς γεύσεως. δοκεῖ δ' εἶναι ἀρχὴ τὸ ποτόν καὶ
 ἄποτον· γεῦσις γάρ τις ἀμφότερα· ἀλλὰ τὸ μὲν φαύλη

§ 4 καὶ φθαρτικὴ τῆς γεύσεως, τὸ δὲ κατὰ φύσιν· ἐστὶ δὲ κοι-
 νὸν ἀφῆς καὶ γεύσεως τὸ ποτόν. ἐπεὶ δ' ὑγρὸν τὸ γευστόν,
 ἀνάγκη καὶ τὸ αἰσθητήριον αὐτοῦ μήτε ὑγρὸν εἶναι ἐντελε- 422^b
 χεῖα μήτε ἀδύνατον ὑγραίνεσθαι· πάσχει γάρ τι ἢ γεῦ-
 σις ὑπὸ τοῦ γευστοῦ, ἢ γευστόν. ἀναγκαῖον ἄρα ὑγρανθῆναι
 τὸ δυνάμενον μὲν ὑγραίνεσθαι σωζόμενον, μὴ ὑγρὸν δέ, τὸ

similar process of combination nor by emanation. Here then, in regard to taste, there is nothing corresponding to a mediating substance, but, on the other hand, as the object of vision is colour, so the object of taste is flavour. Now nothing produces the sense of flavour without moisture; everything that does so, possesses moisture either actually or potentially. So it is, for instance, with the saltish; for it is easily dissolved and it readily combines with the moisture of the tongue.

[In its objects, taste is as comprehensive as sight or hearing.] Sight, we saw, is concerned at once with the visible and invisible (darkness, for instance, is invisible, but is nevertheless distinguished by the eyesight), and also with the excessively bright, which is likewise invisible, though in another manner than darkness. Hearing, in like manner, perceives both sound and silence (of which the one is audible, the other inaudible), and is also directed to excessive noise, just as sight dealt with the overbrilliant, great and violent noise being inaudible much in the same way as the slight and feeble. And here further it should be noted that the name invisible is used not only to denote that which is absolutely and entirely so, in the manner in which we use the word impossible in other cases; it denotes also that which does not possess its normal qualities or possesses them only imperfectly, as we speak of something as without feet or without kernel. Taste then, has in this same way a perception at once of the sapid and the insipid, meaning by this last that which has a small and feeble flavour or a flavour which destroys taste altogether. Of this distinction the drinkable and undrinkable is thought to be the origin, for taste embraces both, although there is this difference, that the one is destructive and injurious to the taste, while the other is naturally adapted to it. And the potable or drinkable is common at once to touch and taste.

The object of taste being liquid, it follows that the organ which perceives it must be neither actually moist nor yet incapable of being rendered moist: for the taste is affected in some way by the object of taste as such. Hence it is necessary that the organ of taste which admits of being moistened should be rendered moist without losing anything of its own nature and

γευστικὸν αἰσθητήριον. σημείον δὲ τὸ μήτε κατάξηρον οὔσαν 5
 τὴν γλῶτταν αἰσθάνεσθαι μήτε λίαν ὑγρὰν· αὕτη γὰρ ἀφή
 γίνεται τοῦ πρώτου ὑγροῦ, ὥσπερ ὅταν προγευματίσας τις
 ἰσχυροῦ χυμοῦ γεύηται ἐτέρον· καὶ οἷον τοῖς κάμνουσι πικρὰ
 πάντα φαίνεται διὰ τὸ τῇ γλῶττι πλήρει τοιαύτης ὑγρό-
 § 5 τητος αἰσθάνεσθαι. τὰ δ' εἶδη τῶν χυμῶν, ὥσπερ καὶ ἐπὶ 10
 τῶν χρωμάτων, ἀπλᾶ μὲν τὰναντία, τὸ γλυκὺ καὶ τὸ πι-
 κρόν, ἐχόμενα δὲ τοῦ μὲν τὸ λιπαρόν, τοῦ δὲ τὸ ἀλμυρόν·
 μεταξὺ δὲ τούτων τό τε δριμὺ καὶ τὸ αὐστηρόν καὶ στρυφνόν
 καὶ ὀξύ· σχεδὸν γὰρ αὗται δοκοῦσιν εἶναι διαφοραὶ χυμῶν.
 ὥστε τὸ γευστικὸν ἐστὶ τὸ δυνάμει τοιοῦτον, γευστὸν δὲ τὸ 15
 ποιητικὸν ἐντελεχείᾳ αὐτοῦ.

§ 1 XI. Περὶ δὲ τοῦ ἀπτοῦ καὶ ἀφῆς ὁ αὐτὸς λόγος. εἰ γὰρ
 ἡ ἀφή μὴ μία ἐστὶν αἰσθησις ἀλλὰ πλείους, ἀναγκαῖον καὶ τὰ
 ἀπτὰ αἰσθητὰ πλείω εἶναι. ἔχει δ' ἀπορίαν πότερον πλείους
 εἰσὶν ἢ μία, καὶ τί τὸ αἰσθητήριον τὸ τοῦ ἀπτοῦ ἀπτικόν, 20
 πότερον ἢ σὰρξ καὶ ἐν τοῖς ἄλλοις τὸ ἀνάλογον, ἢ οὐ, ἀλλὰ
 τοῦτο μὲν ἐστὶ τὸ μεταξύ, τὸ δὲ πρῶτον αἰσθητήριον ἄλλο τί
 § 2 ἐστὶν ἐντός. πᾶσά τε γὰρ αἰσθησις μιᾶς ἐναντιώσεως εἶναι
 δοκεῖ, οἷον ὄψις λευκοῦ καὶ μέλανος καὶ ἀκοή ὀξέος καὶ
 βαρέος καὶ γεῦσις πικροῦ καὶ γλυκέος· ἐν δὲ τῷ ἀπτῷ 25
 πολλαὶ ἔνεισιν ἐναντιώσεις, θερμὸν ψυχρόν, ξηρὸν ὑγρόν,
 σκληρὸν μαλακόν, καὶ τῶν ἄλλων ὅσα τοιαῦτα. ἔχει δέ
 τινα λύσιν πρὸς γε ταύτην τὴν ἀπορίαν, ὅτι καὶ ἐπὶ τῶν

8. χυμοῦ om. E.
 ἀπτικῶν ESTUVXy, ἀπτοῦ W.

17. καὶ περὶ ἀφῆς ETy Tor.
 26. εἰσὶν STUVX.

20. ἀπτοῦ ἀπτικόν]

without being moistened in itself. This is confirmed by the fact that the tongue has no sense of taste when it is either very dry or very moist: for in this latter case, it is the moisture with which the tongue has been previously imbued that is touched, rather than the flavour applied to it that is tasted. The case, in fact, is just like what happens when one, after having tasted beforehand some strong flavour, proceeds to taste some other substance, or to the way in which everything seems bitter to the sick because the tongue with which they taste is filled with flavour of this bitter character.

The specific kinds of flavours are, as in the case of colours, *firstly*, simple opposites, viz. the sweet and bitter: *secondly*, the flavours allied to each of these—i.e. the oily and the saltish: *thirdly*, the flavours intermediate between these, viz. the pungent, the rough, the astringent and the piquant: these being in fact the different flavours which are generally recognised. Thus then the faculty of taste is that which is potentially of this character: the object of taste is that which makes it actually so.

CHAPTER XI.

Touch and its object may be considered in the same way. Thus if touch be not one single sense but a variety of senses, the objects of touch must be also several. And it is in fact a question whether the sense of touch includes several senses or whether it is one sense only, as also what is the organ which is adapted to perceive the tangible, whether, e.g., it is the flesh and in the case of other animals some corresponding part, or whether, on the other hand, this is merely the intervening medium, the ultimate organ of sense being something else which is within. For, while all the other senses are held to be related to some pair of opposites—sight, for example being directed to the white and black, hearing to the acute and grave, taste to the bitter and the sweet—the object of touch presents us with many pairs of opposites—such as hot and cold, dry and moist, hard and soft, and others of like character.

A partial solution of this difficulty lies in the consideration

ἄλλων αἰσθήσεών εἰσιν ἐναντιώσεις πλείους, οἷον ἐν φωνῇ οὐ
μόνον ὀξύτης καὶ βαρύτης, ἀλλὰ καὶ μέγεθος καὶ μικρότης ³⁰
καὶ λειότης καὶ τραχύτης φωνῆς καὶ τοιαῦθ' ἕτερα. εἰσὶ δὲ
καὶ περὶ χρῶμα διαφοραὶ τοιαῦται ἕτεραι. ἀλλὰ τί τὸ ἐν
τὸ ὑποκείμενον, ὥσπερ ἀκοῇ ψόφος, οὕτω τῇ ἀφῇ, οὐκ ἔστιν
§ 3 ἔνδηλον. πότερον δ' ἐστὶ τὸ αἰσθητήριον ἐντός, ἢ οὐ, ἀλλ'
εὐθέως ἢ σὰρξ; οὐδὲν δοκεῖ σημεῖον εἶναι τὸ γίνεσθαι τὴν ^{423^a}
αἴσθησιν ἅμα θιγγανομένων. καὶ γὰρ νῦν εἴ τις περὶ τὴν
σάρκα περιτείνειεν οἷον ὑμένα ποιήσας, ὁμοίως τὴν αἴσθησιν
εὐθέως ἀψάμενος ἐνσημαίνει· καίτοι δῆλον ὡς οὐκ ἔστιν ἐν
§ 4 τούτῳ τὸ αἰσθητήριον· εἰ δὲ καὶ συμφυὲς γένοιτο, θάπτον ἔτι ⁵
δικνοῦτ' ἂν ἡ αἴσθησις. διὸ τὸ τοιοῦτο μόνον τοῦ σώματος
ἔοικεν οὕτως ἔχειν ὥσπερ ἂν εἰ κύκλῳ ἡμῶν περιεπεφύκει ὁ
ἀήρ. ἐδοκοῦμεν γὰρ ἂν ἐνί τινι αἰσθάνεσθαι καὶ ψόφου καὶ
χρώματος καὶ ὁσμῆς, καὶ μία τις αἴσθησις εἶναι ὅψις ἀκοῇ
ὁσφρησις, νῦν δὲ διὰ τὸ διωρίσθαι δι' οὗ γίνονται αἱ κινήσεις, ¹⁰
φανερὰ τὰ εἰρημένα αἰσθητήρια ἕτερα ὄντα. ἐπὶ δὲ τῆς ἀφῆς
τοῦτο νῦν ἄδηλον· ἐξ ἀέρος μὲν γὰρ ἢ ὕδατος ἀδύνατον συ-
στήναι τὸ ἔμψυχον σῶμα· δεῖ γάρ τι στερεὸν εἶναι.λείπεται
δὴ μικτὸν ἐξ γῆς καὶ τούτων εἶναι, οἷον βούλεται ἢ σὰρξ καὶ
τὸ ἀνάλογον· ὥστε ἀναγκαῖον καὶ τὸ σῶμα εἶναι μεταξὺ τοῦ ¹⁵
ἀπτικοῦ προσπεφυκός, δι' οὗ γίνονται αἱ αἰσθήσεις πλείους
§ 5 οὔσαι. δηλοῖ δ' ὅτι πλείους ἢ ἐπὶ τῆς γλώττης ἀφή· ἀπάντων
γὰρ τῶν ἀπτῶν αἰσθάνεται κατὰ τὸ αὐτὸ μόνιον καὶ χυμοῦ.
εἰ μὲν οὖν καὶ ἡ ἄλλη σὰρξ ἡσθάνετο τοῦ χυμοῦ, ἐδόκει ἂν

34. δῆλον SUVX.

423^a 2. νῦν om. SUV.

4. ἀψάμενος] ἀψαμένω

conj. Trendl., ἀψαμένου conj. Tor.

10. κινήσεις] κινήσεις καὶ αἱ αἰσθήσεις U.

15. καὶ] εἶναι καὶ E.

that in the case of the other senses also there are several pairs of opposites. Thus in sound we recognise not only the high or low pitch of the notes, but also their strength and weakness, their roughness and their smoothness, and so forth. Colour similarly has a number of different aspects. Still this consideration does not let us see what is the one common object falling to the sense of touch as sound falls under hearing.

Another question which suggests itself with reference to touch is whether its organ is within, or whether it is not within, but is immediately the flesh. No conclusion can be drawn from the fact that the perception of touch takes place simultaneously with actual contact. If we were to frame a membrane-like substance and stretch it over the flesh, we should still, no less than before, perceive the object immediately after touching it. Yet it is evident the organ of sense is not contained within this: and of course if the membrane were naturally united with the flesh, the perception would pass through it still more rapidly.

This part then of the body seems to be related to us much in the same way as if air were to encircle us about: we should then be thought to perceive both sound and colour and odour by one single medium, and sight, hearing and smell would be regarded as but one single sense. Now however, as matters stand, by reason of the difference in the organs by which the movements are effected, the organs of sense which we have mentioned are clearly seen to be different from one another. With regard to touch, however, this point is obscure. For it is impossible that the animate body which feels touch should be composed of air or water, seeing that it must be something compact. It remains then that it should be compounded of earth and such like elements as the flesh and its counterpart is understood to be. The body then must be simply the natural medium for the sense of touch, as the means by which its sensations, which are several in number, are communicated. The multiplicity of these sensations is shewn by the sense of touch located in the tongue: for here at one and the same part is located the sense at once of all tangible objects and of flavour. Were then the rest of the flesh to perceive flavour also, taste and touch would appear to be one and the same: whereas, as matters stand, they are

ἡ αὐτὴ καὶ μία εἶναι αἰσθησις ἢ γεῦσις καὶ ἡ ἀφή· νῦν δὲ 20
 § 6 δύο διὰ τὸ μὴ ἀντιστρέφειν. ἀπορήσειε δ' ἂν τις, εἰ πᾶν
 σῶμα βάθος ἔχει· τοῦτο δ' ἐστὶ τὸ τρίτον μέγεθος· ὦν δ' ἐστὶ
 δύο σωμάτων μεταξὺ σῶμά τι, οὐκ ἐνδέχεται ταῦτα ἀλλή-
 λων ἄπτεσθαι· τὸ δ' ὑγρὸν οὐκ ἔστιν ἄνευ σώματος, οὐδὲ τὸ
 διερόν, ἀλλ' ἀναγκαῖον ὕδωρ εἶναι ἢ ἔχειν ὕδωρ· τὰ δὲ 25
 ἀπτόμενα ἀλλήλων ἐν τῷ ὕδατι, μὴ ξηρῶν τῶν ἄκρων ὄν-
 τῶν, ἀναγκαῖον ὕδωρ ἔχειν μεταξύ, οὐκ ἀνάπλεα τὰ ἔσχατα·
 εἰ δὲ τοῦτ' ἀληθές, ἀδύνατον ἄψασθαι ἄλλο ἄλλου ἐν ὕδατι.
 τὸν αὐτὸν δὲ τρόπον καὶ ἐν τῷ αἵρι· (ὁμοίως γὰρ ἔχει ὁ αἷρ
 πρὸς τὰ ἐν αὐτῷ καὶ τὸ ὕδωρ πρὸς τὰ ἐν τῷ ὕδατι. λαν- 30
 θάνει δὲ μᾶλλον ἡμᾶς, ὥσπερ καὶ τὰ ἐν τῷ ὕδατι ζῶα,
 § 7 εἰ διερόν διεροῦ ἄπτεται)· πότερον οὖν πάντων ὁμοίως ἐστὶν ἢ 423^b
 αἰσθησις, ἢ ἄλλων ἄλλως, καθάπερ νῦν δοκεῖ ἢ μὲν γεῦσις
 καὶ ἡ ἀφή τῷ ἄπτεσθαι, αἱ δ' ἄλλαι ἄποθεν; τὸ δ' οὐκ
 ἔστιν, ἀλλὰ καὶ τὸ σκληρὸν καὶ τὸ μαλακὸν δι' ἐτέρων αἰ-
 σθανόμεθα, ὥσπερ καὶ τὸ ψοφητικὸν καὶ τὸ ὀρατὸν καὶ τὸ 5
 ὁσφραντόν· ἀλλὰ τὰ μὲν πόρρωθεν, τὰ δ' ἐγγύθεν· διὸ
 λανθάνει, ἐπεὶ αἰσθανόμεθά γε πάντων διὰ τοῦ μέσου· ἀλλ'
 ἐπὶ τούτων λανθάνει. καίτοι καθάπερ εἶπαμεν καὶ πρότερον,
 καὶ εἰ δι' ὑμέως αἰσθανοίμεθα τῶν ἀπτῶν ἀπάντων λανθά-
 νοντος ὅτι διείργει, ὁμοίως ἂν ἔχοιμεν ὥσπερ καὶ νῦν ἐν 10
 τῷ ὕδατι καὶ ἐν τῷ αἵρι· δοκοῦμεν γὰρ αἰτῶν ἄπτεσθαι
 § 8 καὶ οὐδὲν εἶναι διὰ μέσου. ἀλλὰ διαφέρει τὸ ἀπτὸν τῶν ὀρα-
 τῶν καὶ τῶν ψοφητικῶν, ὅτι ἐκείνων μὲν αἰσθανόμεθα τῷ
 τὸ μεταξὺ ποιεῖν τι ἡμᾶς, τῶν δὲ ἀπτῶν οὐχ ὑπὸ τοῦ με-

23. δύο om. SUVX. || αὐτὰ EWY. 27. οὐ] ᾧ STUVX. 423^b 5, ψοφητὸν SX.
 6. τὸ SVX. || τὸ SUVX. 9. αἰσθανόμεθα STUVX Ald.

actually two, because the organs of the one sense cannot take the place of those of the other.

There is a question which might be started here. Every body, it will be granted, possesses depth, that is, is of the third dimension, and two bodies with some third body between them can never come into contact with one another. Now neither the moist nor the fluid can exist independently of water: they must either be or have water. But those objects which touch one another in water, seeing that the edges are not dry, must necessarily have between them water with which the extremities are filled. If however this be true, then it is impossible for one object really to be in contact with another in water, and the same thing holds good with objects in the air: the air standing in the same relation to the objects in it as that in which water stands to the objects in water, although we rather fail to notice, just like aquatic animals, whether the fluid touches on the fluid.

The question then naturally arises whether there is one mode of sensation for all objects equally, or whether different kinds of objects are perceived in different manners. Popular thought accepts the latter view, and holds that the perceptions of touch and taste take place through immediate contact with their object, while the other senses operate at a distance. This however is not really the case. We really perceive both the hard and soft through media, just as we also do the sonorous, the visible, and odorous: the only difference being that in the one case the objects are further off, in the other case more close at hand. And thus, by reason of the close proximity, the fact escapes our notice, the real truth being that we perceive all objects through the intervention of some medium, although we fail to observe it in the senses we have mentioned. Yet, as we said before, were we to perceive all the objects of touch through a membrane of whose intervention we were unconscious, we should be in the same condition as we are in now both in water and in air, in which we imagine ourselves to touch the very objects themselves, and think of no intervening medium.

There is, however, this difference between the object of touch and the objects of sight and sound, that, in the case of the latter, perception is the result of some action on the part of the

ταξὺν ἀλλ' ἅμα τῷ μεταξύ, ὥσπερ ὁ δι' ἀσπίδος πλη- 15
 γείσ· οὐ γὰρ ἡ ἀσπίς πληγείσα ἐπάταξεν, ἀλλ' ἅμ' ἅμφω
 § 9 συνέβη πληγῇναι. ὅλως δ' εἰκεν ἡ σὰρξ καὶ ἡ γλῶττα, ὡς
 ὁ ἀῆρ καὶ τὸ ὕδωρ πρὸς τὴν ὄψιν καὶ τὴν ἀκοὴν καὶ τὴν
 ὁσφρησιν ἔχουσιν, οὕτως ἔχειν πρὸς τὸ αἰσθητήριον ὥσ-
 περ ἐκείνων ἕκαστον. αὐτοῦ δὲ τοῦ αἰσθητηρίου ἀπτομένου 20
 οὐτ' ἐκεῖ οὐτ' ἐνταῦθα γένοιτ' ἂν αἴσθησις, οἷον εἴ τις σῶμα
 τὸ λευκὸν ἐπὶ τοῦ ὀμματος θείη τὸ ἔσχατον. ἥ καὶ δῆλον
 ὅτι ἐντὸς τὸ τοῦ ἀπτοῦ αἰσθητικόν. οὕτω γὰρ ἂν συμβαίνοι
 ὅπερ καὶ ἐπὶ τῶν ἄλλων· ἐπιτιθεμένων γὰρ ἐπὶ τὸ αἰσθητή-
 ριον οὐκ αἰσθάνεται, ἐπὶ δὲ τὴν σάρκα ἐπιτιθεμένων αἰσθά- 25
 § 10 νεται· ὥστε τὸ μεταξύ τοῦ ἀπτικοῦ ἢ σάρξ. ἀπταὶ μὲν οὖν
 εἰσὶν αἱ διαφοραὶ τοῦ σώματος ἢ σῶμα· λέγω δὲ διαφορὰς
 αἱ τὰ στοιχεῖα διορίζουσι, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, περὶ
 § 11 ὧν εἰρήκαμεν πρότερον ἐν τοῖς περὶ στοιχείων. τὸ δὲ αἰσθη-
 τήριον αὐτῶν τὸ ἀπτικόν, καὶ ἐν ᾧ ἡ καλουμένη ἀφή ὑπάρ- 30
 χει πρώτῳ, τὸ δυνάμει τοιοῦτόν ἐστι μόνον· τὸ γὰρ αἰσθά-
 νεσθαι πάσχειν τι ἐστίν· ὥστε τὸ ποιοῦν οἷον αὐτὸ ἐνεργεία, 424^a
 τοιοῦτον ἐκείνο ποιεῖ δυνάμει ὄν. διὸ τοῦ ὁμοίως θερμοῦ καὶ
 ψυχροῦ ἢ σληροῦ καὶ μαλακοῦ οὐκ αἰσθανόμεθα, ἀλλὰ
 τῶν ὑπερβολῶν, ὡς τῆς αἰσθήσεως. οἷον μεσότητός τινος οὔσης
 τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ 5
 αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεται γὰρ πρὸς ἑκάτερον
 αὐτῶν θάτερον τῶν ἄκρων· καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθή-
 σεσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργεία,
 δυνάμει δ' ἅμφω, (οὕτω δὲ καὶ ἐπὶ τῶν ἄλλων) καὶ ἐπὶ τῆς
 § 12 ἀφ' ἧς μήτε θερμὸν μήτε ψυχρόν. ἔτι δ' ὥσπερ ὁρατοῦ καὶ 10

13. ἐκεῖνα ESTUVX.

16. ἀλλ' ἅμ' ἅμφω E. Tor., ἅμ' om. ceteri.

20. ἀπτομένων UVX.

21. τὸ σῶμα Tor.

24. ὥσπερ SUVX. καὶ om.

STUVWXY.

28. αἰς SUVX.

424^a 1. τὸ δυνάμει ὄν Tor.

2. ὁμοίου TUX.

6. αἰσθητήρια STUX.

9. δὴ SUW. Trend. Bekk.

medium towards us, whereas in regard to the objects of touch we perceive not by means of, but along with the medium; just like a man who has been struck through his shield, where it is not the shield which by being struck has hit the man, but the two which have been struck together. Altogether, in short, the flesh and tongue seem to stand in the same relation to touch as that in which air and water do to sight, hearing, and smell. In the one case too, as little as in the other, would perception ensue on direct contact with the organ of sensation, as for instance by placing a white object on the very extremity of the eye. From this it is evident that the organ of touch is internal. For the same thing must happen in regard to touch as in regard to other senses. There, when anything is placed upon the actual organ, no perception follows; it is however perceived when placed upon the flesh, and hence, we may infer, it is the flesh which serves as medium for the sense of touch.

It is then the different qualities of body *qua* body that are apprehended by the touch; such qualities being those which distinguish the different elements, viz. hot and cold, dry and moist, concerning which we have spoken before now in our Treatise on the Elements. And the organ fitted to perceive them by the touch and that in which what is called touch primarily inheres is a part which is in capacity what the objects of touch are in full actuality. For perception is a sort of passive impression, and thus the object which is acting makes the organ, which is potentially the same with it, to be actually so as well. Thus we do not perceive that which is hot or cold, or hard or soft to the same degree as we ourselves are, while we perceive the states that pass into extremes, sense-perception being as it were a sort of mean between the opposition in the things of sense. And hence it is that sense discriminates its objects; that which occupies the mean judging of the two extremes because it becomes for each of them its opposite. And just as that which is to perceive the white and black must be actually neither of them but potentially both, as is similarly the case with the other senses, so also, in the special case of touch, it should be neither hot nor cold.

Mean

αοράτου ἦν πως ἡ ὄψις, ὁμοίως δὲ καὶ αἱ λοιπαὶ τῶν ἀντικειμένων, οὕτω καὶ ἡ ἀφή τοῦ ἀπτοῦ καὶ ἀνάπτου· ἀναπτον δ' ἐστὶ τό τε μικρὰν ἔχον πάμπαν διαφορὰν τῶν ἀπτῶν, οἷον πέπονθεν ὁ ἀήρ, καὶ τῶν ἀπτῶν αἱ ὑπερβολαί, ὥσπερ τὰ φθαρτικά. καθ' ἐκάστην μὲν οὖν τῶν αἰσθήσεων εἴρηται ¹⁵ τύπω.

XII. Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ μὲν αἴσθησις ἐστὶ τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς ὕλης, οἷον ὁ κηρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χρυσοῦν ἢ τὸ ²⁰ χαλκοῦν σημεῖον, ἀλλ' οὐχ ἡ χρυσοῦς ἢ χαλκός. ὁμοίως δὲ καὶ ἡ αἴσθησις ἐκάστου ὑπὸ τοῦ ἔχοντος χρῶμα ἢ χυμὸν ἢ ψόφον πάσχει, ἀλλ' οὐχ ἡ ἑκάστον ἐκείνων λέγεται, ἀλλ' ^{§ 2} ἡ τοιονδί, καὶ κατὰ τὸν λόγον. αἰσθητήριον δὲ πρῶτον ἐν ²⁵ ϕ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν ταυτόν, τὸ δ' εἶναι ἔτερον· μέγεθος μὲν γὰρ ἂν τι εἴη τὸ αἰσθανόμενον· οὐ μὴν τό γε αἰσθητικῶς εἶναι, οὐδ' ἡ αἴσθησις μέγεθός ἐστιν, ἀλλὰ λό- ^{§ 3} γος τις καὶ δύναμις ἐκείνου. φανερόν δ' ἐκ τούτων καὶ διὰ τί ποτε τῶν αἰσθητῶν αἱ ὑπερβολαὶ φθείρουσι τὰ αἰσθητή- ³⁰ ρια· ἐὰν γὰρ ἡ ἰσχυροτέρα τοῦ αἰσθητηρίου ἢ κίνησις, λύεται ὁ λόγος, (τοῦτο δ' ἦν ἡ αἴσθησις), ὥσπερ καὶ ἡ συμ- ^{§ 4} φωνία καὶ ὁ τόνος κρονομένων σφόδρα τῶν χορδῶν. καὶ διὰ

18. εἰδῶν om. SUX. Tor.
EUVW.

28. ἐκεῖνο E.

24. τὸν om. E.

31. ἦν om. ETW.

25. ταυτὰ SX. ταυτόν

why plants possess no sense-perception although they have a psychic element and are impressed in some degree by things tangible, becoming, as they do, both hot and cold. The reason is that they do not possess that faculty (which sense implies) of acting as a mean between extremes, and have no fundamental capacity for receiving the form only of the things of sense : but that on the contrary, at the same time as they receive the form of anything, they receive the matter likewise.

The question might be further raised whether that which is without the sense of smell could be affected by odour, or that which is without the faculty of vision by colour, and so on, in like cases. In answer to this we may reply that if the object of smell be odour, it is the sense of smell (if anything) which odour calls into exercise ; and therefore none of those objects that are without the faculty of smell can be affected by odour, (the same account being given also of the other senses) ; nor indeed can any of those objects which have the faculties of sense perceive anything except in so far as they have some particular sensitive capacity. The matter will be clear also in the following manner. Neither light, nor darkness, nor sound, nor smell, can produce any effect on bodies, although the substance in which they are contained may do so, just as it is the air which accompanies thunder that breaks up trees. Tangible qualities, however, and flavours do themselves act on bodies ; otherwise, in fact, by what would things inanimate be affected and altered ? Will not then, it may be said, other sensible qualities act also in this manner ? Or is the truth this—that every body cannot be affected by smell and sound ; and those objects which are affected by them (as, for instance, air,) are indefinite and shifting : for the air gives out odour as if it had been subject to an impression. What then, it may be said, is smell but an impression of this same kind ? And to this we must reply that smelling over and beyond this mere impression means perceiving, whereas the impression of the air only makes it quickly perceptible.

ΑΡΙΣΤΟΤΕΛΟΥΣ

ΠΕΡΙ ΨΥΧΗΣ Γ.

- § 1 Ὅτι δ' οὐκ ἔστιν αἴσθησις ἑτέρα παρὰ τὰς πέντε (λέγω δὲ ταύτας ὄψιν, ἀκοήν, ὄσφρησιν, γεῦσιν, ἀφήν), ἐκ τῶνδε πιστεύσειεν ἂν τις. εἰ γὰρ παντὸς οὗ ἔστιν αἴσθησις ἀφή, καὶ νῦν αἴσθησιν ἔχομεν (πάντα γὰρ τὰ τοῦ ἀπτοῦ ἢ ἀπτὸν πάθη τῇ ἀφῇ ἡμῖν αἰσθητά ἐστιν), ἀνάγκη τ', εἴπερ ἐκλείπει τις ²⁵ αἴσθησις, καὶ αἰσθητήριόν τι ἡμῖν ἐκλείπειν· καὶ ὅσων μὲν αὐτῶν ἀπτόμενοι αἰσθανόμεθα, τῇ ἀφῇ αἰσθητά ἐστιν, ἣν τυγχάνομεν ἔχοντες· ὅσα δὲ διὰ τῶν μεταξύ, καὶ μὴ αὐτῶν ἀπτόμενοι, τοῖς ἀπλοῖς, λέγω δ' οἶον ἀέρι καὶ ὕδατι·
- § 2 ἔχει δ' οὕτως, ὥστ' εἰ μὲν δι' ἐνὸς πλείω αἰσθητὰ ἕτερα ὄντα ³⁰ ἀλλήλων τῷ γένει, ἀνάγκη τὸν ἔχοντα τὸ τοιοῦτον αἰσθητήριον ἀμφοῖν αἰσθητικὸν εἶναι· οἶον εἰ ἐξ ἀέρος ἐστὶ τὸ αἰσθητήριον, καὶ ἔστιν ὁ ἀῆρ καὶ ψόφου καὶ χροᾶς· εἰ δὲ πλείω τοῦ αὐτοῦ, οἶον χροᾶς καὶ ἀῆρ καὶ ὕδωρ (ἀμφω γὰρ διαφανῇ), ^{425^a} καὶ ὁ τὸ ἕτερον αὐτῶν ἔχων μόνον αἰσθήσεται τοῦ δι' ἀμ-
- § 3 φοῖν. τῶν δὲ ἀπλῶν ἐκ δύο τούτων αἰσθητήρια μόνον ἐστίν,

424^b 22. τούτων EW. τῶνδε δῆλον SX. 27. αὐτῶν] αὐτοὶ TW. 29. ἀπλοῖς διαστήμασι λ. TWγ. 425^a 2. αἰσθήσεται ἀμφοῖν Bekk., τοῖν ἀμφοῖν L., τοῦ δι' ἀμφοῖν TW.

BOOK THIRD.

CHAPTER I.

The five senses just enumerated—sight, hearing, smell, taste and touch—would seem to comprise all our perceptive faculties and to leave no further sense to be explained. The following considerations will help to make this clear. Let it be granted that we, as matters stand, perceive everything of which touch is the appropriate sense, since all the properties of the tangible as such are perceived by us through touch: and let it be allowed, further, that the absence of any faculty of sense-perception involves the absence of the corresponding organ. Now all those objects which are naturally known by actual contact are perceived through the sense of touch, and this we actually possess: those objects, on the other hand, which are known through media without contact on our part, are perceived through the elements such as air and water. (Thus if several objects of sense, different in kind from one another, are perceived through one such element, it follows of necessity that any one possessing one such organ must have the power also of perceiving both qualities: so that for instance, if the organ is composed of air, and air is the medium both of sound and colour, the one organ will perceive both qualities. If, on the other hand, there be several elements acting as media to one and the same object—for instance, both air and water, as being both pellucid, act as media for colour—the possession of one only of these media will ensure the perception of that which can be seen through one or other medium.) Now it is from these two alone among the elements—that is, air and water—that the organs of sense

ἐξ ἀέρος καὶ ὕδατος· ἡ μὲν γὰρ κόρη ὕδατος, ἡ δ' ἀκοή
 ἀέρος, ἡ δ' ὁσφρησις θατέρου τούτων. τὸ δὲ πῦρ ἡ οὐθενὸς ἡ 5
 κοινὸν πάντων· οὐθὲν γὰρ ἄνευ θερμότητος αἰσθητικόν· γῆ δὲ
 ἡ οὐθενός, ἡ ἐν τῇ ἀφῇ μάλιστα μέμικται ἰδίως. διὸ λείποιτ'
 § 4 ἂν μηθὲν εἶναι αἰσθητήριον ἔξω ὕδατος καὶ ἀέρος. ταῦτα δὲ
 καὶ νῦν ἔχουσιν ἓνια ζῶα. πᾶσαι ἄρα αἱ αἰσθήσεις ἔχονται
 ὑπὸ τῶν μὴ ἀτελῶν μηδὲ πεπηρωμένων· φαίνεται γὰρ καὶ 10
 ἡ ἀσπάλαξ ὑπὸ τὸ δέρμα ἔχουσα ὀφθαλμούς· ὥστ' εἰ μή τι
 ἕτερόν ἐστι σῶμα, καὶ πάθος ὃ μηθενός ἐστι τῶν ἐνταῦθα
 § 5 σωμαμάτων, οὐδεμία ἂν ἐκλείποι αἴσθησις. ἀλλὰ μὴν οὐδὲ τῶν
 κοινῶν οἷόν τ' εἶναι αἰσθητήριόν τι ἴδιον, ὧν ἐκάστη αἰσθήσει
 αἰσθανόμεθα κατὰ συμβεβηκός, οἷον κινήσεως, στάσεως, 15
 σχήματος, μεγέθους, ἀριθμοῦ, ἐνός· ταῦτα γὰρ πάντα κινή-
 σει αἰσθανόμεθα, οἷον μέγεθος κινήσει· ὥστε καὶ σχῆμα·
 μέγεθος γάρ τι τὸ σχῆμα· τὸ δ' ἡρεμοῦν τῷ μὴ κινεῖσθαι·
 ὃ δ' ἀριθμὸς τῇ ἀποφάσει τοῦ συνεχοῦς καὶ τοῖς ἰδίοις· ἐκάστη
 γὰρ ἐν αἰσθάνεται αἴσθησις. ὥστε δῆλον ὅτι ἀδύνατον ὅτου οὖν 20
 ἰδίαν αἰσθησιν εἶναι τούτων, οἷον κινήσεως· οὕτω γὰρ ἔσται
 § 6 ὥσπερ νῦν τῇ ὄψει τὸ γλυκὺ αἰσθανόμεθα· τοῦτο δ' ὅτι
 ἀμφοῖν ἔχοντες τυγχάνομεν αἰσθησιν, ἥ καὶ ὅταν συμπέ-
 σωσιν ἅμα γνωρίζομεν. εἰ δὲ μή, οὐδαμῶς ἂν ἀλλ' ἡ κατὰ
 συμβεβηκός ἡσθανόμεθα, οἷον τὸν Κλέωνος υἱὸν οὐχ ὅτι 25

7. διὸ λείποιτ'] διὸ om. LSUVX. 11. ἡ σπάλαξ E. 13. μία ἂν
 λείποιτο T. μία ἂν ἑλλείποι Ly. ἐκλείποι UVWX Trend. 14. ὧν ἐκ.] ὧν καὶ ἐκ. E.
 Tor. 15. αἰσθανόμεθα, οὐ κατὰ συμβ. conl. Tor. 16. κινήσει] κοινή
 Simpl. Tor. 23. καὶ om. LSTUVWXY. 24. ἅμα γνωρίζομεν E., γνωρι-
 ζομεν LSUVWXY. ἀναγνωρίζομεν T. Trend. Bekk. 25. αἰσθανόμεθα ETUVWY.

are constructed. (Thus the pupil of the eye consists of water : the organ of hearing is composed of air : the sense of smell depends on one or other of these two.) As for fire, on the other hand, it is either a constituent in no one of the organs of sense or it is a common element in all, as there is no faculty of sense which can act independently of heat ; and as regards earth, it is either present in none of the organs, or it is chiefly incorporated in a special manner with the touch. Hence then no element is left to act as an organ of sense-perception outside air and water. Now, as matter of fact, several animals do possess the organs so constituted. Thus, then, we may venture to conclude, all the senses are possessed by those animals which are not imperfect nor mutilated : even the mole is found to have eyes underneath its skin. And thus, unless there exist bodies differing from those we know, and unless there are properties of substances which are found in none of those around us, it would follow that no sense whatever can be wanting to us.

Nor can there, in the next place, be any one special organ for those common properties which we perceive in connection with each perception—such properties, viz., as movement, rest, figure, magnitude, number and unity. All of these are perceived as some modification or other of movement. Thus, for instance, magnitude is perceived in connection with such movement, and this also is the case with figure (a kind of magnitude) while rest is perceived by the absence of movement. Number, on the other hand, is apprehended by the negation of continuity, as also by the individual senses, because the object of each sensation is a unit. It is, therefore, clearly impossible that there should be any one particular sense attached to any of these forms, as for instance movement. Were there in fact such a special sense appropriated to the common sensibles, we should perceive them only in the way in which we now perceive something to be sweet through seeing it—because, that is, we happen to possess from past experience a perception of two qualities united in one object, and thereby, when the two qualities coexist, we know them together. Apart, indeed, from such co-existence of the two qualities, we should have no perception of them except incidentally, just as we know the son of Cleon, not as

Κλέωνος υἱός, ἀλλ' ὅτι λευκός, τούτῳ δὲ συμβέβηκεν νῖφ
 § 7 Κλέωνος εἶναι. τῶν δὲ κοινῶν ἤδη ἔχομεν αἰσθησιν κοινήν,
 οὐ κατὰ συμβεβηκός· οὐκ ἄρ' ἐστὶν ἰδία· οὐδαμῶς γὰρ ἂν
 ᾗσθανόμεθα ἀλλ' ἢ οὕτως ὥσπερ εἴρηται τὸν Κλέωνος υἱὸν
 ἡμᾶς ὁρᾶν. τὰ δ' ἀλλήλων ἴδια κατὰ συμβεβηκός αἰσθά- 30
 νονται αἱ αἰσθήσεις, οὐχ ἥ αὐταί, ἀλλ' ἥ μία, ὅταν ἅμα
 γένηται ἡ αἰσθησις ἐπὶ τοῦ αὐτοῦ, οἷον χολήν ὅτι πικρά 425^b
 καὶ ξανθή· οὐ γὰρ δὴ ἐτέρας γε τὸ εἰπεῖν ὅτι ἄμφω
 ἐν· διὸ καὶ ἀπατᾶται, καὶ ἐὰν ἥ ξανθόν, χολήν οἶεται
 § 8 εἶναι. ζητήσκει δ' ἂν τις τίνος ἔνεκα πλείους ἔχομεν αἰσθήσεις,
 ἀλλ' οὐ μίαν μόνην. ἢ ὅπως ἦττον λανθάνη τὰ ἀκολουθοῦντα 5
 καὶ κοινά, οἷον κίνησις καὶ μέγεθος καὶ ἀριθμός· εἰ γὰρ
 ἦν ἡ ὄψις μόνη, καὶ αὐτὴ λευκοῦ, ἐλάνθανεν ἂν μᾶλλον
 καὶ ἐδόκει ταῦτ' εἶναι πάντα διὰ τὸ ἀκολουθεῖν ἀλλήλοις
 ἅμα χρῶμα καὶ μέγεθος. νῦν δ' ἐπεὶ καὶ ἐν ἐτέρῳ αἰ-
 σθητῷ τὰ κοινὰ ὑπάρχει, δῆλον ποιεῖ ὅτι ἄλλο τι ἕκαστον 10
 αὐτῶν.

II. Ἐπεὶ δ' αἰσθανόμεθα ὅτι ὁρῶμεν καὶ ἀκούομεν, ἀνάγκη

29. ἡ om. ELTV.

χολή STUVWXY.

κᾶν LSTUVWX.

31. αὐταί] αἱ αὐταί SUy. Trend. Bekk.

5. μόνον SUX. || ἦττον] μὴ TVWXY.

9. ἅμα] conī. Tor. ἀεί.

425^b I. ὅτι

8. καί]

such, but as a white object, to which it is an incidental concomitant, to be the son of Cleon. But when we reach the common sensibles we find we have a *common* perception of them which enters into all the senses, not a perception incidentally united with some single sense. There is, therefore, no one special sense assigned to the common properties of objects of sensation; for were there only such a special sense, we should never perceive them except in that incidental manner in which, as has been said, we see through something white the son of Cleon. At the same time, the faculties of sense do perceive the qualities that belong to adjacent senses incidentally, but they do so not as separate senses in themselves, but in so far as they meet in one, when one perception takes place simultaneously with another in regard to the same object. It is, for instance, in this manner that sense perceives gall to be both bitter and yellow: it is not the part of any separate sense to say that both qualities are in union: this, indeed, is just the reason why people are deceived, and led to suppose that if a fluid be yellow it must be gall.

The question may now be raised, why is it that we have several senses, and not one only, in order to perceive these common properties of sense? The reason may be that it is to prevent the common qualities associated with particular sensations, such as motion, magnitude, and number, escaping possibly our observation. Were sight the only sense which we possessed, restricted, say, for instance, to white colour, all other qualities would readily escape our notice, and would be thought to be the same with the reports of particular sensations, in consequence of the manner in which such qualities as colour and magnitude accompany each other. On the other hand, with the arrangement which prevails, the presence of the common qualities in other objects of sensation makes it evident that each of them is different.

CHAPTER II.

In addition to actually seeing and hearing, we perceive also that we see and that we hear. We must then perceive that we

- ἡ τῇ ὄψει αἰσθάνεσθαι ὅτι ὀρά, ἡ ἑτέρα. ἀλλ' ἡ αὐτὴ ἔσται
 τῆς ὄψεως καὶ τοῦ ὑποκειμένου χρώματος. ὥστε ἡ δύο τοῦ
 αὐτοῦ ἔσονται ἡ αὐτὴ αὐτῆς. ἔτι δ' εἰ καὶ ἑτέρα εἴη ἡ τῆς 15
 ὄψεως αἰσθησις, ἡ εἰς ἄπειρον εἰσιν ἡ αὐτὴ τις ἔσται αὐτῆς.
- § 2 ὥστ' ἐπὶ τῆς πρώτης τοῦτο ποιητέον. ἔχει δ' ἀπορίαν· εἰ γὰρ
 τὸ τῇ ὄψει αἰσθάνεσθαι ἔστιν ὀρᾶν, ὀράται δὲ χρώμα ἡ τὸ
 ἔχον, εἰ ὄψεται τις τὸ ὀρῶν, καὶ χρώμα ἔξει τὸ ὀρῶν πρῶ-
- § 3 τον. φανερόν τοίνυν ὅτι οὐχ ἐν τὸ τῇ ὄψει αἰσθάνεσθαι καὶ 20
 γὰρ ὅταν μὴ ὀρῶμεν, τῇ ὄψει κρίνομεν καὶ τὸ σκότος καὶ
 τὸ φῶς, ἀλλ' οὐχ ὡσαύτως. ἔτι δὲ καὶ τὸ ὀρῶν ἔστιν ὡς κε-
 χρωμάτισται· τὸ γὰρ αἰσθητήριον δεκτικὸν τοῦ αἰσθητοῦ ἄνευ
 τῆς ὕλης ἕκαστον· διὸ καὶ ἀπελθόντων τῶν αἰσθητῶν ἔνεισιν
- § 4 αἱ αἰσθήσεις καὶ φαντασίαι ἐν τοῖς αἰσθητηρίοις. ἡ δὲ τοῦ 25
 αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἡ αὐτὴ μὲν ἔστι καὶ μία,
 τὸ δ' εἶναι οὐ ταυτὸν αὐταῖς· λέγω δ' οἷον ψόφος ὁ κατ'
 ἐνέργειαν καὶ ἀκοὴ ἡ κατ' ἐνέργειαν· ἔστι γὰρ ἀκοὴν ἔχοντα·
 μὴ ἀκούειν, καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ. ὅταν δ' ἐνεργῇ
 τὸ δυνάμενον ἀκούειν καὶ ψοφῇ τὸ δυνάμενον ψοφεῖν, τότε 30
 ἡ κατ' ἐνέργειαν ἀκοὴ ἅμα γίνεται καὶ ὁ κατ' ἐνέργειαν ψό-
 φος, ὧν εἴπειν ἂν τις τὸ μὲν εἶναι ἀκουσῶν τὸ δὲ ψόφησιν. 426^a
- § 5 εἰ δ' ἔστιν ἡ κίνησις καὶ ἡ ποίησις καὶ τὸ πάθος ἐν τῷ ποιου-

15. ἡ E. Tor., om. ceteri. 16. ἀνεισιν LUWX. 17. ποιητέον] conl.
 Tor. θετέον, vel δοτέον, ego τοῦτ' οἰητέον. 27. οὐ τὸ αὐτὸ αὐταῖς EL. Tor. || οἷον
 ὁ ψόφος δ' ELW. Tor. 426^a I. ὧν] ὥστ' TW. || φήσειεν SUVX. 2. εἰ δ']
 δη ELSTUVXy.

see either by means of eye-sight itself or by some other sense. In the latter case, however, there will be one and the same sense relating to the eye-sight and to the colour which is its object: and thus there must either be two senses concerned with one and the same object or the sense must itself possess the perception of itself. And, further, even if the sense which thus perceives sight were different from sight itself, this would either involve another sense *ad infinitum* or there must at last be a sense which perceives its own action. We must, therefore, ascribe this faculty of sense-perception to the original sense itself.

Here, however, a difficulty meets us. To perceive anything by sight is, it may be said, to see: and it is colour, or what possesses colour, that is seen. Hence, it may be thought, the original sense must, in order to perceive the seeing organ, possess colour also. The difficulty so raised shews that perception by sight is not used in one single sense; even when we see nothing we are still able to distinguish by the eye-sight both darkness and light, though not, it is true, in the same manner. Further, however, there is a sense in which the organ of sight may be said to be coloured: because the perceptive organ is in each case suited to receive the object of sense without the matter of which it is composed. Hence in fact the reason why, even after the objects of sense have passed away, the perceptions and the images which represent them continue to subsist within the perceptive organs.

The object of sense is in fact, at the moment when it is perceived, identical with the actual exercise of sense-perception, although it is true the aspect which the former presents to us is different from that of the latter. Thus it is, for example, with sound as actually expressed and hearing as actually exercised: one possessed of the sense of hearing need not actually hear, and that which is capable of producing sound need not be always actually sounding: it is only when that which is capable of hearing actually realizes itself, and that which is capable of sounding actually expresses sound, that at one and the same time hearing in full activity and sound in full activity are attained, so that there would be said to be hearing on the one side, sounding on the other. Now, if it be in the object as it is

μένω, ἀνάγκη καὶ τὸν ψόφον καὶ τὴν ἀκοὴν τὴν κατ' ἐνέργειαν ἐν τῇ κατὰ δύναμιν εἶναι· ἡ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται. διὸ οὐκ ἀνάγκη τὸ 5
κινεῖν κινεῖσθαι. ἡ μὲν οὖν τοῦ ψοφητικοῦ ἐνέργειά ἐστι ψόφος ἢ ψόφησις, ἡ δὲ τοῦ ἀκουστικοῦ ἀκοὴ ἢ ἀκουσις· διττὸν γὰρ ἡ
§ 6 ἀκοή, καὶ διττὸν ὁ ψόφος. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων αἰσθήσεων καὶ αἰσθητῶν. ὥσπερ γὰρ ἡ ποίησις καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἀλλ' οὐκ ἐν τῷ ποιοῦντι, οὕτω καὶ ἡ τοῦ 10
αἰσθητοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ αἰσθητικῷ. ἀλλ' ἐπ' ἐνίων μὲν ὠνόμασται, οἷον ἡ ψόφησις καὶ ἡ ἀκουσις, ἐπὶ δ' ἐνίων ἀνώνυμον θάτερον· ὅρασις γὰρ λέγεται ἡ τῆς ὄψεως ἐνέργεια, ἡ δὲ τοῦ χρώματος ἀνώνυμος, καὶ γεῦσις ἡ τοῦ
§ 7 γευστικοῦ, ἡ δὲ τοῦ χυμοῦ ἀνώνυμος. ἐπεὶ δὲ μία μὲν ἐστὶν 15
ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ ἡ τοῦ αἰσθητικοῦ τὸ δ' εἶναι ἕτερον, ἀνάγκη ἅμα φθίρεσθαι καὶ σώζεσθαι τὴν οὕτω λεγομένην ἀκοὴν καὶ ψόφον, καὶ χυμὸν δὴ καὶ γεῦσιν καὶ τὰ ἄλλα ὁμοίως· τὰ δὲ κατὰ δύναμιν λεγόμενα οὐκ ἀνάγκη.
§ 8 ἀλλ' οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν 20
οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῇ μὲν γὰρ ἔλεγον ὀρθῶς, τῇ δ' οὐκ ὀρθῶς· διχῶς γὰρ λεγομένης τῆς αἰσθήσεως καὶ τοῦ αἰσθητοῦ, τῶν μὲν κατὰ δύναμιν τῶν δὲ κατ' ἐνέργειαν, ἐπὶ τούτων μὲν συμβαίνει τὸ λεχθέν, ἐπὶ δὲ τῶν ἐτέρων οὐ συμ- 25

11. ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ om. TUW.

15. ἐστὶν ἡ ἐνέργεια ἢ E. Tor.

20. πρότεροι UVW.

being produced that both movement and productive action as well as receptivity take place, it follows that both actual sound and actual hearing must be contained in that which is potential: for it is in what is passive that the action of what is able to create and move displays itself—a fact from which it follows as a corollary that the cause of movement need not itself be moved. Thus then the actual expression of the sonorous is sound or sounding, the actualization of the capacity to hear is hearing as completed or in process: both sound and hearing being taken in a twofold sense. The same account holds good also of other senses and their objects. For just as creative action and passive receptivity are manifested in the subject which receives impressions, not in the object which produces them, so also the actualization at once of the object and of the faculty of sense lies in the faculty of sense. Sometimes both states have names assigned them, as is the case with the terms 'sounding' and 'hearing': sometimes again the one or other is without a name. Thus the actual exercise of sight is known as seeing, but the actual existence of colour when perceived has no distinctive name; and so similarly the actual operation of the gustatory faculty is known as tasting, while flavour, when actually felt, is without any characteristic name. Thus then, since the object and the faculty of sense-perception are as actually operative fundamentally one, though differing in the aspect which they respectively present, it follows that hearing and sound when used in this sense must be destroyed and preserved together, and so also must it be with flavour and taste and with the object and the organ of the other senses: while, on the other hand, if object and organ be understood as in potentiality, there is no necessity that this should happen.

This relation of the object to the subject of sensation was not rightly comprehended by the early natural philosophers. They thought that there was nothing white or black apart from vision, and no flavour independently of taste. And in so thinking they were partly right, but they were also partly wrong. For perception and its object are words employed in two senses, on the one hand as potential, on the other hand as actual: and although in the latter of these senses their assertion was correct, in the

βαίνει. ἀλλ' ἐκεῖνοι ἀπλῶς ἔλεγον περὶ τῶν λεγομένων οὐχ
 § 9 ἀπλῶς. εἰ δ' ἡ συμφωνία φωνή τίς ἐστίν, ἡ δὲ φωνή καὶ
 ἡ ἀκοή ἐστίν ὡς ἐν ἐστὶ καὶ ἐστὶν ὡς οὐχ ἐν τὸ αὐτό,
 λόγος δ' ἡ συμφωνία, ἀνάγκη καὶ τὴν ἀκοὴν λόγον τινὰ
 εἶναι. καὶ διὰ τοῦτο καὶ φθείρει ἕκαστον ὑπερβάλλον, καὶ τὸ 30
 ὀξύ καὶ τὸ βαρὺ, τὴν ἀκοήν· ὁμοίως δὲ καὶ ἐν χυμοῖς τὴν
 γεῦσιν, καὶ ἐν χρώμασι τὴν ὄψιν τὸ σφόδρα λαμπρὸν ἢ 426^b
 ζοφερόν, καὶ ἐν ὁσφρήσει ἡ ἰσχυρὰ ὁσμὴ καὶ γλυκεῖα
 καὶ πικρά, ὡς λόγον τινὸς ὄντος τῆς αἰσθήσεως. διὸ καὶ
 ἡδέα μὲν, ὅταν εἰλικρινῇ καὶ ἀμιγῇ ἄγεται εἰς τὸν λόγον
 οἶον τὸ ὀξύ ἢ γλυκὺ ἢ ἀλμυρόν· ἡδέα γὰρ τότε. ὅλως δὲ 5
 μᾶλλον τὸ μικτὸν συμφωνία ἢ τὸ ὀξύ ἢ βαρὺ, ἀφῇ δὲ
 τὸ θερμαντὸν ἢ ψυκτόν· ἢ δ' αἰσθησις ὁ λόγος· ὑπερβάλ-
 § 10 λοντα δὲ λυπεῖ ἢ φθείρει. ἐκάστη μὲν οὖν αἰσθησις τοῦ ὑπο-
 κειμένου αἰσθητοῦ ἐστίν, ὑπάρχουσα ἐν τῷ αἰσθητηρίῳ ἢ αἰσθη-
 τήριον, καὶ κρίνει τὰς τοῦ ὑποκειμένου αἰσθητοῦ διαφοράς, οἶον 10
 λευκὸν μὲν καὶ μέλαν ὄψις, γλυκὺ δὲ καὶ πικρὸν γεῦσις.
 ὁμοίως δ' ἔχει τοῦτο καὶ ἐπὶ τῶν ἄλλων. ἐπεὶ δὲ καὶ τὸ
 λευκὸν καὶ τὸ γλυκὺ καὶ ἕκαστον τῶν αἰσθητῶν πρὸς ἕκαστον
 κρίνομεν, τίτι καὶ αἰσθανόμεθα ὅτι διαφέρει; ἀνάγκη δὲ αἰ-
 § 11 σθήσει· αἰσθητὰ γὰρ ἐστίν. ἢ καὶ δηλὸν ὅτι ἡ σὰρξ οὐκ ἐστὶ 15
 τὸ ἔσχατον αἰσθητήριον· ἀνάγκη γὰρ ἦν ἀπτόμενον αὐτοῦ

27. δ' ἡ συμφ.] δὴ pr. E. SXY Trend.

31. ὁμοίως δὲ om. STUVWXy.

426^b 3. πικρά] λιπαρά EL.

4. ἀμιγῇ] ἀμιγῇ ὄντα U Sylb. Tor. ἀμικτα ὄντα

STVWXy.

16. γὰρ αὖ ἦν W Tor.

former it does not hold good. They, however, maintained their doctrines without any qualification whatever, when they were really dealing with terms which are not employed in so unambiguous a manner. [Perception does, however, always involve a close relation between the subject and the object, as may be seen by reference to sound and hearing.] Harmony, it will be granted, is a species of vocal sound; and sound and hearing are in one sense identical (though it is true there is another sense in which they are not the same). Now, since harmony is a ratio, hearing, it follows, must be also a sort of ratio. This is in fact the reason why every excess, whether it be high or low, destroys hearing; just as similarly every excess in flavours destroys taste, every excess among colours, whether over-brilliant or over-dark, destroys vision, or just again as all violent odours, whether sweet or bitter, destroy the sense of smell. Perception, in fact, always involves a sort of ratio between the object and the faculty of sense. Hence also it is that flavours are pleasant, when, being pure and unblended, they are combined in definite proportions, as is the case with what is piquant, or sweet, or saltish—flavours which are pleasant when combined in due proportions, and that in general the mixed and blended is attended with the greater pleasure. Harmony, for example, brings us more pleasure than the single bass or treble, and to the sense of touch a moderate temperature is pleasanter than what is simply either hot or cold. Sense-perception thus involves this relative proportion: while those objects which exceed this ratio either produce pain or destroy the action of sense.

Each single sense, we have before remarked, apprehends the object appropriated to it: and existing in its organ of sense as such it judges of the distinctions in the object which is subject to it. Eye-sight, for instance, judges of the white and black, taste of what is sweet and bitter, and so on. But furthermore, we discriminate between what is white and what is sweet and between each of the objects of sense in comparison with every other: and thus the question rises, what is it which enables us to apprehend this difference? It must be sense: because the qualities to be compared are objects of sense. But if sense be the power which thus distinguishes the different qualities of

κρίνειν τὸ κρῖνον· οὔτε δὴ κεχωρισμένοις ἐνδέχεται κρίνειν ὅτι ἕτερον τὸ γλυκὺ τοῦ λευκοῦ, ἀλλὰ δεῖ ἐνί τινι ἄμφω δῆλα εἶναι. οὕτω μὲν γὰρ καὶ εἰ τοῦ μὲν ἐγὼ τοῦ δὲ σὺν αἰσθοιο, δῆλον ἂν εἴη ὅτι ἕτερα ἀλλήλων. δεῖ δὲ τὸ ἐν λέγειν ὅτι ²⁰ ἕτερον· ἕτερον γὰρ τὸ γλυκὺ τοῦ λευκοῦ. λέγει ἄρα τὸ αὐτό.

§ 12 ὥστε ὡς λέγει, οὕτω καὶ νοεῖ καὶ αἰσθάνεται. ὅτι μὲν οὖν οὐχ οἷόν τε κεχωρισμένοις κρίνειν τὰ κεχωρισμένα, δῆλον· ὅτι δ' οὐδ' ἐν κεχωρισμένῳ χρόνῳ, ἐντεῦθεν. ὥσπερ γὰρ τὸ αὐτὸ λέγει ὅτι ἕτερον τὸ ἀγαθὸν καὶ τὸ κακόν, οὕτω καὶ ὅτε θά- ²⁵ τερον λέγει ὅτι ἕτερον, καὶ θάτερον, οὐ κατὰ συμβεβηκὸς τὸ ὅτε· λέγω δ', οἷον νῦν λέγω ὅτι ἕτερον, οὐ μέντοι ὅτι νῦν ἕτερον ἀλλ' οὕτω λέγει, καὶ νῦν, καὶ ὅτι νῦν· ἅμα ἄρα. ὥστε

§ 13 ἀχώριστον καὶ ἐν ἀχωρίστῳ χρόνῳ. ἀλλὰ μὴν ἀδύνατον ἅμα τὰς ἐναντίας κινήσεις κινεῖσθαι τὸ αὐτὸ ἢ ἀδιαίρετον καὶ ἐν ³⁰ ἀδιαιρέτῳ χρόνῳ. εἰ γὰρ γλυκὺ ὠδὶ κινεῖ τὴν αἰσθησιν ἢ τὴν νόησιν, τὸ δὲ πικρὸν ἐναντίως, καὶ τὸ λευκὸν ἐτέρως. ⁴²⁷ ἄρ' οὖν ἅμα μὲν καὶ ἀριθμῶ ἀδιαίρετον καὶ ἀχώριστον τὸ κρῖνον, τῷ εἶναι δὲ κεχωρισμένον; ἔστι δὴ πως ὡς τὸ διαι-
ρετὸν τῶν διηρημένων αἰσθάνεται, ἔστι δ' ὡς ἢ ἀδιαίρετον· τῷ

19. γὰρ] ἔχει LV. γὰρ ἔχει E Ald.
τὸ γλυκὺ TW Trend.

24. οὐδ' ἐν ἐν E. Tor.

31. γὰρ

427^a 3 δὴ] δὲ SU.

objects, it is evident that the mere fleshly organism is not the ultimate organ of sense-perception: because in that case the discriminating faculty would have to distinguish on merely coming into contact with the sensible object. Thus then it is impossible for the senses taken apart from one another, to decide that what is (say) sweet is different from what is white: on the contrary, both the qualities must be exhibited to some one faculty. It is just in fact as if I were to perceive the one and you the other; it would then be evident that our two perceptions are different from one another: but still it would be necessary to have some one referee to assert the difference: and just in the same way as such an assertion is made, do thought and perception also operate.

It is clear then that the separate senses cannot apart pass judgment on separate perceptions. Nor, further, can such a judgment be passed at different times. Just as it is one and the same principle which asserts that the good and bad are different, so further when it maintains the one to be different it also at the same time maintains the other to be so also. Nor is this identity of time simply incidental: it is not, that is, as if its assertion were merely like saying "I *at present* assert the difference," without adding also that "the difference holds good *at present*"—rather the one principle, which thus distinguishes both, maintains at present the difference, and maintains it to hold good at present: that is to say, it makes the two statements simultaneously; so that its judgment is inseparable, and made in a single inseparable moment of time.

But, it may be said, the same thing, cannot as undivided and within an undivided point of time be at one and the same time moved with contrary movements. Yet if a quality be sweet it moves sense or thought in such and such a manner, while what is bitter does so in a contrary manner, and what is white must do so in a manner different from both. Must not then the discriminating faculty be simultaneously on the one hand numerically one and undivided, but on the other hand separated in the mode of its existence? The truth is, there is a sense in which this distinguishing principle perceives what is divided as divided, while in another sense it does so as one un-

§ 14 εἶναι μὲν γὰρ διαιρετόν, τόπῳ δὲ καὶ ἀριθμῷ ἀδιαίρετον. ἡ 5
οὐχ οἷόν τε; δυνάμει μὲν γὰρ τὸ αὐτὸ καὶ ἀδιαίρετον τὰ-
ναντία, τῷ δ' εἶναι οὐ, ἀλλὰ τῷ ἐνεργεῖσθαι διαιρετόν, καὶ
οὐχ οἷόν τε ἅμα λευκὸν καὶ μέλαν εἶναι, ὥστ' οὐδὲ τὰ εἶδη
§ 15 πάσχειν αὐτῶν, εἰ τοιοῦτον ἡ αἴσθησις καὶ ἡ νόησις. ἀλλ'
ὥσπερ ἦν καλοῦσί τινες στιγμὴν, ἡ μία καὶ ἡ δύο, ταύτη 10
καὶ διαιρετή. ἡ μὲν οὖν ἀδιαίρετον, ἐν τῷ κρῖνόν ἐστι καὶ ἅμα,
ἡ δὲ διαιρετὸν ὑπάρχει, δις τῷ αὐτῷ χρήται σημεῖω ἅμα.
ἡ μὲν οὖν δυσὶ χρήται τῷ πέρατι, δύο κρίνει καὶ κεχωρι-
σμένα ἔστιν ὡς κεχωρισμένῳ ἡ δ' ἓν, ἐνὶ καὶ ἅμα. περὶ
μὲν οὖν τῆς ἀρχῆς ἡ φαμὲν τὸ ζῶον αἰσθητικὸν εἶναι, διω- 15
ρίσθω τὸν τρόπον τοῦτον.

III. Ἐπεὶ δὲ δύο διαφοραῖς ὀρίζονται μάλιστα τὴν ψυχὴν,
κινήσει τε τῇ κατὰ τόπον καὶ τῷ νοεῖν καὶ τῷ κρίνειν καὶ
αἰσθάνεσθαι, δοκεῖ δὲ καὶ τὸ νοεῖν καὶ τὸ φρονεῖν ὥσπερ
αἰσθάνεσθαι τι εἶναι· ἐν ἀμφοτέροις γὰρ τούτοις κρίνει τι ἡ 20
ψυχὴ καὶ γνωρίζει τῶν ὄντων· καὶ οἱ γε ἀρχαῖοι τὸ φρο-

6. διαιρετὸν καὶ ἀδιαίρετον UWy Ald. Sylb. Tor. 10. ὥσπερ ἐν καλοῦσί
τινες στιγμὴν coni. Trend. 11. καὶ ἀδιαίρετος καὶ διαιρετή· ἡ κ.τ.λ. Tor. 12.
ὑπάρχει, οὐχ ἓν δις γὰρ Ald. Sylb. Tor. 13. ὡς δυσὶ, coni. Trend. Tor. 14.
κεχωρισμένῳ ELT, ὡς κεχωρισμένων VS. 16. ὀρίσθω E.

divided faculty ; because while it is divided in its application or its mode of being, it is in regard of its seat of action and as viewed numerically one single undivided principle. Or is this really impossible? Potentially, it may be said, the same subject, and that one undivided, may present opposite qualities : but this cannot be the case with its definite existence ; in its operation and working these characteristics are divided. The same thing, in fact, cannot be at once black and white : and so, *if* perception and thought be nothing but a passive reception of such qualities, they cannot be impressed at one and the same time with the forms which represent these contraries.

To this objection it may be replied that the matter stands just as with the point (as some describe it), which, so far as it is one, may be regarded as undivided, while so far as it is two, it is divided. So far then as the principle of judgment is undivided, so far it is one single faculty acting in one moment : so far as it shows itself divided, it uses the same point twice at two simultaneous times. So far then as our faculty of discrimination makes use of the termination of this point as two, it distinguishes two qualities, and the objects are separated as the faculty is separated ; while so far as it is one single faculty, it judges by one single act and within a single point of time.

Thus much on the principle through which, according to our view, the living being is endowed with powers of sense-perception.

CHAPTER III.

Two *differentiae* are chiefly used to characterize the soul—local movement on the one hand, thought discrimination and perception on the other. The popular mind thus comes to look at thought and understanding as a kind of sense-perception, on the ground that at once in thought and in sense the soul distinguishes and cognizes things. And in fact the older thinkers actually identify

νεῖν καὶ τὸ αἰσθάνεσθαι ταυτὸν εἶναί φασιν, ὥσπερ καὶ Ἐμπεδοκλῆς εἶρηκε “πρὸς παρεὸν γὰρ μῆτις ἀέξεται ἀνθρώποισιν” καὶ ἐν ἄλλοις “ὅθεν σφίσιν αἰεὶ καὶ τὸ φρονεῖν ἀλλοῖα παρίσταται.” τὸ δ’ αὐτὸ τούτοις βούλεται καὶ τὸ Ὀμή-²⁵
 § 2 ρου “τοῖος γὰρ νόος ἐστίν.” πάντες γὰρ οὗτοι τὸ νοεῖν σωματικὸν ὥσπερ τὸ αἰσθάνεσθαι ὑπολαμβάνουσιν, καὶ αἰσθάνεσθαί τε καὶ φρονεῖν τῷ ὁμοίῳ τὸ ὅμοιον, ὥσπερ καὶ ἐν τοῖς κατ’ ἀρχὰς λόγοις διωρίσαμεν. καίτοι ἔδει ἅμα καὶ περὶ τοῦ ἡπατήσθαι αὐτοὺς λέγειν· οἰκειότερον γὰρ τοῖς ζώοις,^{427^b} καὶ πλείῳ χρόνον ἐν τούτῳ διατελεῖ ἡ ψυχὴ. διὸ ἀνάγκη ἦτοι ὥσπερ ἔνιοι λέγουσι, πάντα τὰ φαινόμενα εἶναι ἀληθῆ, ἢ τὴν τοῦ ἀνομοίου θίξιν ἀπάτην εἶναι· τοῦτο γὰρ ἐναντίον τῷ τὸ ὅμοιον τῷ ὁμοίῳ γνωρίζειν· δοκεῖ δὲ καὶ ἡ ἀπάτη καὶ⁵
 § 3 ἡ ἐπιστήμη τῶν ἐναντίων ἢ αὐτὴ εἶναι. ὅτι μὲν οὖν οὐ ταυτόν ἐστι τὸ αἰσθάνεσθαι καὶ τὸ φρονεῖν, φανερόν· τοῦ μὲν γὰρ πᾶσι μέτεστι, τοῦ δὲ ὀλίγοις τῶν ζώων. ἀλλ’ οὐδὲ τὸ νοεῖν ἐν ᾧ ἐστὶ τὸ ὀρθῶς καὶ τὸ μὴ ὀρθῶς, τὸ μὲν ὀρθῶς φρόνησις καὶ ἐπιστήμη καὶ δόξα ἀληθοῦς, τὸ δὲ μὴ ὀρθῶς¹⁰ τὰναντία τούτων· οὐδὲ τοῦτο δ’ ἐστὶ ταυτὸ τῷ αἰσθάνεσθαι· ἡ μὲν γὰρ αἴσθησις τῶν ἰδίων αἰεὶ ἀληθοῦς, καὶ πᾶσιν ὑπάρχει τοῖς ζώοις, διανοεῖσθαι δ’ ἐνδέχεται καὶ ψευδῶς, καὶ
 § 4 οὐδενὶ ὑπάρχει ᾧ μὴ καὶ λόγος· φαντασία γὰρ ἕτερον καὶ

25. βούλεται τούτοις STUVWY.

26. τοῖος γὰρ νόος ἐστὶν ἐπιχθονίων

ἀνθρώπων, οἷον ἐπ’ ἡμᾶρ ἄγῃσι πατὴρ ἀνδρῶν τε θεῶν τε Ald Sylb.

427^b 2.

τούτοις STVY.

5. τῷ ὁμοίῳ τὸ ὅμοιον Trend.

11. ταυτὸν L. τὸ αὐτὸ STUVWX.

thought with sense-perception. Thus, for example, Empedocles maintains :

“Wisdom increases to men according to what they experience.”

And in another passage he observes :

“Hence variation of thought presents itself ever before them.”

To similar effect also are the words of Homer :

“Of such kind is the reason.”

All these writers, in fact, understand thought to be something bodily, just like sense-perception: and they suppose perception and thought lie in the apprehension of the like by the like, as was laid down at the beginning of this treatise. They should, however, before thus identifying sense and thought, have discussed the nature of error and misconception, a state which is somewhat distinctively [in opposition to inanimate things which cannot err] the condition of living beings, and in which the soul continues for a considerable length of time. Thinkers, then, who thus identify sense and thought must either, as some do, maintain *all* presentations of the senses to be true, or they must explain misconception through contact on the part of the dissimilar, this being the opposite of knowing like by like. But this latter explanation is entirely at variance with the ordinary view, that in reference to contraries the knowledge and the misapprehension of them are one and the same.

Manifestly, then, thought is not the same as sense-perception. The latter is possessed by all animals without exception: the former is the property of but a few. But neither again is thought as a process leading to results now correct, now incorrect—correct thought being understanding, scientific knowledge, and true opinion, incorrect thought their opposites—neither is this process of thought identical with sense-perception. The perception of the qualities peculiar to each sense is always true, and is an attribute of every animal: thought, on the contrary, may be false as well as true, and is possessed by no animals that do not have as well intelligible language.

[Imagination, indeed, the animal does have,] but this is different at once from sense-perception and from understanding:

αἰσθήσεως καὶ διανοίας· αὐτὴ τε οὐ γίνεται ἄνευ αἰσθή- 15
σεως, καὶ ἄνευ ταύτης οὐκ ἔστιν ὑπόληψις. ὅτι δ' οὐκ ἔστιν
ἡ αὐτὴ νόησις καὶ ὑπόληψις, φανερόν. τοῦτο μὲν γὰρ τὸ
πάθος ἐφ' ἡμῖν ἐστίν, ὅταν βουλώμεθα (πρὸ ὁμμάτων γὰρ
ἔστι ποιήσασθαι, ὥσπερ οἱ ἐν τοῖς μνημονικοῖς τιθέμενοι καὶ
εἰδωλοποιοῦντες), δοξάζειν δ' οὐκ ἐφ' ἡμῖν· ἀνάγκη γὰρ ἡ 20
ψεύδεσθαι ἢ ἀληθεύειν. ἔτι δὲ ὅταν μὲν δοξάζωμεν δεινόν
τι ἢ φοβερόν, εὐθὺς συμπάσχομεν, ὁμοίως δὲ καὶ θαρρα-
λέον· κατὰ δὲ τὴν φαντασίαν ὡσαύτως ἔχομεν ὥσπερ ἂν
§ 5 οἱ θεώμενοι ἐν γραφῇ τὰ δεινὰ ἢ θαρραλέα. εἰσὶ δὲ καὶ
αὐτῆς τῆς ὑπολήψεως διαφοραί, ἐπιστήμη καὶ δόξα καὶ 25
φρόνησις καὶ τάναντία τούτων, περὶ ὧν τῆς διαφορᾶς ἕτε-
ρος ἔστω λόγος. περὶ δὲ τοῦ νοεῖν, ἐπεὶ ἕτερον τοῦ αἰσθάνε-
σθαι, τούτου δὲ τὸ μὲν φαντασία δοκεῖ εἶναι τὸ δὲ ὑπόλη-
ψις, περὶ φαντασίας διορίσαντας οὕτω περὶ θατέρου λεκτέον.
§ 6 εἰ δὴ ἐστὶν ἡ φαντασία καθ' ἣν λέγομεν φάντασμα τι 428
ἡμῖν γίγνεσθαι καὶ μὴ εἶ τι κατὰ μεταφορὰν λέγομεν,
μία τίς ἐστι τούτων δύναμις ἢ ἕξις, καθ' ἣν κρίνομεν καὶ
ἀληθεύομεν ἢ ψευδόμεθα. τοιαῦται δ' εἰσὶν αἰσθησις, δόξα,
§ 7 ἐπιστήμη, νοῦς. ὅτι μὲν οὖν οὐκ ἔστιν αἰσθησις, δῆλον ἐκ 5
τῶνδε. αἰσθησις μὲν γὰρ ἦτοι δύναμις ἢ ἐνέργεια, οἷον ὄψις
καὶ ὄρασις, φαίνεται δὲ τι καὶ μηδετέρου ὑπάρχοντος τού-
των, οἷον τὰ ἐν τοῖς ὕπνοις. εἴτα αἰσθησις μὲν αἰὲν πάρεστι,

17. νόησις] φαντασία margo U. om. γ.

STUWXy.

21. δοξάζωμεν LSUW.

STUVWXy.

428^a 2. γενέσθαι STVX.

καί] ἢ ESUWX.

4. ἦ] καὶ ESTUW.

18. γὰρ] γοῦν V. 20. ἡ om.

24. οἱ] εἰ ELSUVXy. || ἦ] καὶ

3. καθ' ἣν] conl. Tor. καθ' ἁς.

and while imagination does not come into existence independently of sense-perception, conception is not found without the aid of imagination. But that imagination is a different kind of thought from conception or reflection is quite evident. Imagination is a condition subject to our own control whenever we desire—we can represent an object before our eyes just in the way those do who, in the exercise of memory, depict something with which the fact to be recalled has been associated—but conception or the forming an opinion does not in this way depend on us because it must needs be either true or false. And, further, when we form the opinion that something is terrible or fearful, we at the same time experience a feeling of fear along with it; and the result is similar when we think anything fitted to excite our confidence: whereas, with respect to merely forming an image of anything, our condition is simply like that of those who see scenes of terror and of courage portrayed in pictures. And, again, conception includes a number of specific forms—scientific knowledge, opinion, understanding, and their opposites, the difference between which will be dealt with elsewhere. Thought, on the other hand, is regarded as different from sense-perception, and is considered to embrace under itself two main forms—viz., imagination and conception. We will therefore, first of all, settle the nature of imagination, and then proceed to the consideration of the other faculty.

Imagination, then, as that faculty in respect of which we say an image or mental picture presents itself before us, and not as it may be understood in any metaphorical or wider sense, might be supposed to be some one of those faculties or states through which we judge and conclude towards that which is true or false. Such faculties are sense-perception, opinion, scientific knowledge, reason.

The following facts, however, shew that imagination is not identical with sense-perception. (1) Sense-perception may be taken either as potential or as actual, as we see, for instance, in the eyesight on the one hand, actual seeing on the other: but a picture of imagination presents itself without the presence of sense-perception in either of these forms, as for instance is the case with our visions in sleep. (2) Again, sense-perception is

φαντασία δ' οὐ. εἰ δὲ τῇ ἐνεργείᾳ τὸ αὐτό, πᾶσιν ἂν ἐνδέ-
 χοιτο τοῖς θηρίοις φαντασίαν ὑπάρχειν· δοκεῖ δ' οὐ, οἷον ¹⁰
 μύρμηκι μὲν ἢ μελίττῃ, σκώληκι δ' οὐ. εἴτα αἱ μὲν ἀληθεῖς
 αἰεὶ, αἱ δὲ φαντασῖαι γίνονται αἱ πλείους ψευδεῖς. ἔπειτ'
 οὐδὲ λέγομεν, ὅταν ἐνεργῶμεν ἀκριβῶς περὶ τὸ αἰσθητόν, ὅτι
 φαίνεται τοῦτο ἡμῖν ἄνθρωπος· ἀλλὰ μᾶλλον ὅταν μὴ ἐναρ-
 γῶς αἰσθανώμεθα, τότε ἢ ἀληθὴς ἢ ψευδής, καὶ ὅπερ δὲ ¹⁵
 § 8 ἐλέγομεν πρότερον, φαίνεται καὶ μύουσιν ὀράματα. ἀλλὰ
 μὴν οὐδὲ τῶν αἰεὶ ἀληθεύοντων οὐδεμία ἔσται, οἷον ἐπιστήμη ἢ
 νοῦς· ἔστι γὰρ φαντασία καὶ ψευδής. λείπεται ἄρα ἰδεῖν
 εἰ δόξα· γίνεται γὰρ δόξα καὶ ἀληθὴς καὶ ψευδής. ἀλλὰ
 δόξῃ μὲν ἔπεται πίστις (οὐκ ἐνδέχεται γὰρ δοξάζοντα οἷς ²⁰
 δοκεῖ μὴ πιστεῦειν), τῶν δὲ θηρίων οὐθενὶ ὑπάρχει πίστις,
 φαντασία δὲ πολλοῖς. ἔτι πάσῃ μὲν δόξῃ ἀκολουθεῖ πίστις,
 πίσκει δὲ τὸ πεπεῖσθαι, πειθοῖ δὲ λόγος· τῶν δὲ θηρίων
 § 9 ἐνίοις φαντασία μὲν ὑπάρχει, λόγος δ' οὐ. φανερόν τοίνυν
 ὅτι οὐδὲ δόξα μετ' αἰσθήσεως, οὐδὲ δι' αἰσθήσεως, οὐδὲ ²⁵
 συμπλοκὴ δόξης καὶ αἰσθήσεως φαντασία ἂν εἴη, διὰ τε
 ταῦτα καὶ δῆλον ὅτι οὐκ ἄλλου τινός ἐστιν ἢ δόξα, ἀλλ'
 ἐκείνου ἐστὶν οὗ καὶ αἰσθησις· λέγω δ', ἐκ τῆς τοῦ λευκοῦ δό-
 ξης καὶ αἰσθήσεως ἢ συμπλοκὴ φαντασία ἐστίν· οὐ γὰρ δὴ
 ἐκ τῆς δόξης μὲν τῆς τοῦ ἀγαθοῦ, αἰσθήσεως δὲ τῆς τοῦ ³⁰
 λευκοῦ. τὸ οὖν φαίνεσθαι ἐστὶ τὸ δοξάζειν ὅπερ αἰσθάνεται ⁴²⁸
 § 10 μὴ κατὰ συμβεβηκός. φαίνεται δὲ καὶ ψευδῇ, περὶ ὧν

10. δοκεῖ δ' οὐ, οἷον μύρμηκι ἢ μελίττῃ ἢ σκώληκι ELSTUVWXY, corr. Tor.

15. δη STUVXY.

21. δοκεῖ] δοξάζει LUW.

22. πάσῃ] εἰ πάσῃ

SXY.

28. εἰ V. Trend., ἐκ Ald. Sylb. Bekk. Tor.

29. ἢ συμπλοκὴ unc.

incl. Tor.

428^b 1. ἐστὶ] ἔσται Tor.

always ready to hand, imagination is not so. But (3) were they as actually realized identical, imagination might be possessed by every animal. This, however, is not generally thought to be the case: the bee and ant would seem to have imagination, the worm would seem to be without it. (4) Further, the perceptions of the senses are as such always true, our pictures formed by imagination are to a great extent false. And, lastly, we do not, when our senses are vigorously and carefully directed towards their object, say that such and such a thing "appears" the image of a man: it is only when we do not perceive the object clearly that the question of its truth or falsity arises. And, as we said before, pictures of imagination present themselves even to those whose eyes are closed.

Neither, again, is imagination any of those faculties which invariably reveal us truth: as, for example, scientific knowledge or thought: because imagination may be false as well as true.

It remains for us, then, to see whether opinion, which is both true and false, can be identified with imagination. But opinion is followed by belief: it is impossible, when holding an opinion, not to believe the views we have. Belief, however, is an attribute of no brute beast, whereas imagination is possessed by many. Besides, every opinion is accompanied by belief, belief by conviction, and conviction by reason; and while imagination is a property of some animals, reason is of none. It is clear, then, that imagination is neither opinion attended by sense-perception, nor acquired through sense-perception, nor again is it the combination of opinion and sense-perception. And from the facts already stated it is further evident that this opinion does not refer to something other than the object of sensation, but is restricted to that of which we have perception. Thus, for instance, it must be the combination of the opinion of white and of the sensation of white which constitutes imagination: it cannot be the result of the opinion of good and the sensation of white.

The result of such a theory would be that imagining is the direct thinking or conceiving of the object of perception. Such a result, however, is directly at variance with facts. Objects in regard to which a man's opinion or conception is quite correct, assume an image which is altogether false: the sun, for exam-

ἄμα ὑπόληψιν ἀληθῆ ἔχει, οἷον φαίνεται μὲν ὁ ἥλιος πο-
 διαῖος, πέπεισται δ' εἶναι μείζων τῆς οἰκουμένης· συμβαί-
 νει οὖν ἥτοι ἀποβεβληκέναι τὴν ἑαυτοῦ ἀληθῆ δόξαν, ἣν εἶχε 5
 σωζομένου τοῦ πράγματος, μὴ ἐπιλαθόμενον μηδὲ μεταπει-
 σθέντα, ἣ εἰ ἔτι ἔχει, ἀνάγκη τὴν αὐτὴν ἀληθῆ εἶναι καὶ
 ψευδῇ. (ἀλλὰ ψευδὴς ἐγένετο, ὅτε λάθοι μεταπεσὼν τὸ πρᾶ-
 γμα.) οὐτ' ἄρα ἔν τι τούτων ἐστὶν οὐτ' ἐκ τούτων ἡ φαντα-
 § 11 σία. ἀλλ' ἐπειδὴ ἐστὶ κινήεντος τουδὶ κινεῖσθαι ἕτερον ὑπὸ 10
 τούτου, ἡ δὲ φαντασία κίνησις τις δοκεῖ εἶναι καὶ οὐκ ἄνευ
 αἰσθήσεως γίνεσθαι ἀλλ' αἰσθανομένοις καὶ ὧν αἴσθησις
 ἐστίν, ἐστὶ δὲ γίνεσθαι κίνησιν ὑπὸ τῆς ἐνεργείας τῆς αἰσθή-
 σεως, καὶ ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει, εἴη ἂν
 αὕτη ἡ κίνησις οὔτε ἄνευ αἰσθήσεως ἐνδεχομένη οὔτε μὴ αἰ- 15
 σθανομένοις ὑπάρχειν, καὶ πολλὰ κατ' αὐτὴν καὶ ποιεῖν
 § 12 καὶ πᾶσχειν τὸ ἔχον, καὶ εἶναι καὶ ἀληθῆ καὶ ψευδῇ. τοῦτο
 δὲ συμβαίνει διὰ τάδε. ἡ αἴσθησις τῶν μὲν ἰδίων ἀληθίς
 ἐστὶν ἡ ὅτι ὀλίγιστον ἔχουσα τὸ ψεῦδος. δεύτερον δὲ τοῖ
 συμβεβηκέναι ταῦτα· καὶ ἐνταῦθα ἤδη ἐνδέχεται διαψεύ- 20
 δεσθαι· ὅτι μὲν γὰρ λευκόν, οὐ ψεύδεται, εἰ δὲ τοῦτο τὸ
 λευκὸν ἢ ἄλλο τι, ψεύδεται. τρίτον δὲ τῶν κοινῶν καὶ ἐπομέ-
 νων τοῖς συμβεβηκόσιν, οἷς ὑπάρχει τὰ ἴδια· λέγω δ' οἷον
 κίνησις καὶ μέγεθος, ἃ συμβέβηκε τοῖς αἰσθητοῖς, περὶ ἃ
 § 13 μάλιστα ἤδη ἐστὶν ἀπατηθῆναι κατὰ τὴν αἴσθησιν. ἡ δὲ 25

4. πέπεισται STUX Tor., πεπίστενται EVWy Trend. || μείζω ESTV Tor.
 6. ἐπιλανθανόμενον LTUVWX. 8. ἐγένετο LSUVXy. 12. αἰσθήσεις εἰσιν
 TUVW. 19. συμβεβηκότος X, τοῦ ᾧ συμβέβηκε καὶ ταῦτα Ald. Sylb., τοῦ δ συμβέβηκε
 τοῦτοις coni. Tor. 21. διαψεύδεται SUVXy. 24. ἃ ante συμβ. om. STUVWX.

ple, bears the image of being but a foot in its diameter, while at the same time the observer is convinced that it is larger than the earth. Here, then, [imagination and opinion are at variance, and if imagination be opinion] one of two things must result. Either, we must say, the man, in having this imagination, must have thrown off the true opinion which he had in presence of the fact while it remained unaltered, unless we are to suppose that he has forgotten or been led to change his views, or if he still preserves his opinion, then it follows necessarily that the same opinion is true and false. (Of course, it might be said that an opinion previously true would become false, in case the object were to alter in its character without our cognizance.)

Imagination, then, is not to be identified with any of these faculties, nor is it the result of their combination. It is, however, a law of nature that whenever one object is moved, another is moved by it. Now imagination is thought to be a form of movement, and is believed to be dependent on the senses so far as to arise only in those who perceive, and relatively to the objects of perception. And while such movement must result from sense as actually realized, and must itself be like the sense-perception, this movement, it follows, can neither exist without sense-perception nor can it be the property of any that do not have perceptive powers. It follows, further, that the possessor of this faculty may be both active and receptive in many ways regarding it, and the imagination itself may be both true and false. This results from the following considerations. The perception of the particular qualities of sense is true or marked by falsity only to the smallest possible degree. But, secondly, there is the perception of the concomitance of these qualities. And here error is possible: for while sense is never mistaken in that the object is for instance white, it may be mistaken as to whether it is this thing or some other object that is white. Thirdly, we must note the perception of the common sensibles—that is, of those properties which are associated with the objects to which the particular qualities belong—such objects, namely, of perception as movement and magnitude, which are concomitants of sensible phenomena, and with respect to which it is particularly possible to be deceived in our perception. Such,

κίνησις ἢ ὑπὸ τῆς ἐνεργείας γινομένη διοίσει τῆς αἰσθήσεως
 τῆς ἀπὸ τούτων τῶν τριῶν αἰσθήσεων, καὶ ἡ μὲν πρώτη πα-
 ρούσης τῆς αἰσθήσεως ἀληθής, αἱ δ' ἕτεραι καὶ παρούσης καὶ
 ἀπούσης εἶεν ἂν ψευδεῖς, καὶ μάλιστα ὅταν πόρρω τὸ αἰσθη-
 τὸν ᾖ. εἰ οὖν μηθὲν μὲν ἄλλο ἔχει τὰ εἰρημένα ἢ ἡ φαν- 30
 τασία, τοῦτο δ' ἐστὶ τὸ λεχθέν, ἢ φαντασία ἂν εἴη κίνησις 429^a

§ 14 ὑπὸ τῆς αἰσθήσεως τῆς κατ' ἐνέργειαν γινομένη. ἐπεὶ δ' ἡ
 ὄψις μάλιστα αἰσθησίς ἐστι, καὶ τὸ ὄνομα ἀπὸ τοῦ φάους

§ 15 εἰληφεν, ὅτι ἄνευ φωτὸς οὐκ ἔστιν ἰδεῖν. καὶ διὰ τὸ ἐμμένειν
 καὶ ὁμοίως εἶναι ταῖς αἰσθήσεσι, πολλὰ κατ' αὐτὰς πράτ- 5
 τει τὰ ζῶα, τὰ μὲν διὰ τὸ μὴ ἔχειν νοῦν, οἷον τὰ θηρία,
 τὰ δὲ διὰ τὸ ἐπικαλύπτεσθαι τὸν νοῦν ἐνίοτε πάθει ἢ νόσοις
 ἢ ὑπνῳ, οἷον οἱ ἄνθρωποι. περὶ μὲν οὖν φαντασίας, τί ἐστι
 καὶ διὰ τί ἐστιν, εἰρήσθω ἐπὶ τοσοῦτον.

IV. Περὶ δὲ τοῦ μορίου τοῦ τῆς ψυχῆς ᾧ γινώσκει τε ἡ 10
 ψυχὴ καὶ φρονεῖ, εἴτε χωριστοῦ ὄντος εἴτε καὶ μὴ χωριστοῦ
 κατὰ μέγεθος ἀλλὰ κατὰ λόγον, σκεπτέον τίν' ἔχει δια-
 § 2 φοράν, καὶ πῶς ποτε γίνεται τὸ νοεῖν. εἰ δὴ ἐστὶ τὸ νοεῖν
 ὥσπερ τὸ αἰσθάνεσθαι, ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ
 § 3 ἢ τι τοιοῦτον ἕτερον. ἀπαθὲς ἄρα δεῖ εἶναι, δεκτικὸν δὲ τοῦ 15
 εἶδους καὶ δυνάμει τοιοῦτον ἀλλὰ μὴ τοῦτο, καὶ ὁμοίως ἔχειν,

27. τῆς ἀπὸ] ἢ ἀπὸ γ Ald. Tor. 29. αἰσθητήριον TUVWX. 30. ἡ ἢ
 φαντασία] ἢ μὴ φαντασίαν Trend. 429^a 2. γινομένης Ald. Sylb. Bekk. 3. ἐστι om.
 STUVWX. 5. ὁμοίως] ὁμοίως ETUX Tor. 10. τοῦ ante τῆς om. LSTUWX.

then, being the varying degrees of truth in sense-perception, there will be a difference in the movement which results from the exercise of each of these three perceptive faculties. Thus the movement in the first instance is true while the perception itself is present: the movements in the other two cases might be both in the presence and in the absence of the sensation possibly false: and this especially in any case in which the object of sensation is far distant from its organ.

Thus, then, if there be nothing but imagination which possesses the attributes that have been mentioned, and this be the faculty we have described, imagination will be a movement resulting from the actual operation of the faculty of sense. And, further, since it is the eye-sight that is the most important sense, imagination has received its name from 'light,' because without light it is impossible to see. And because the pictures of imagination continue to subsist in a way resembling the perceptions of the senses, animals act frequently in accordance with the pictures which imagination offers, some (as is the case with brute beasts) because they have no faculty of reason, others because their reason is at times obscured by passion, or disease, or sleep, as is the case with man. And here we conclude our account of the nature and conditions of imagination.

CHAPTER IV.

We must next discuss the cognitive and thinking part of soul, whether it be separated from our other mental faculties or whether it is not separated physically, but be so only by thought and abstraction, and inquire what is the specific character of thought, and how it is that at some stage or another thought begins to operate.

Thinking, we may assume, is like perception, and, if so, consists in being affected by the object of thought or in something else of this nature. Like sense then, thought or reason must be not entirely passive, but receptive of the form—that is, it must be potentially like this form, but not actually identical with it: it will stand, in fact, towards its objects in the same relation as

ὥσπερ τὸ αἰσθητικὸν πρὸς τὰ αἰσθητά, οὕτω τὸν νοῦν πρὸς
τὰ νοητά. ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι, ὥσ-
περ φησὶν Ἀναξαγόρας, ἵνα κρατῇ, τοῦτο δ' ἐστὶν ἵνα γνω-
ρίξῃ· παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλότριον καὶ ἀντι- 20
φράττει· ὥστε μὴδ' αὐτοῦ εἶναι φύσιν μηδεμίαν ἄλλ' ἢ
ταύτην, ὅτι δυνατόν. ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς
(λέγω δὲ νοῦν ᾧ διανοεῖται καὶ ὑπολαμβάνει ἢ ψυχῇ)
§ 4 οὐθέν ἐστιν ἐνεργεία τῶν ὄντων πρὶν νοεῖν. διὸ οὐδὲ μεμῖχθαι
εὐλογον αὐτὸν τῷ σώματι· ποιός τις γὰρ ἂν γίγνοιτο, ψυ- 25
χρὸς ἢ θερμός, ἢ καὶ ὄργανόν τι εἴη, ὥσπερ τῷ αἰσθητικῷ·
νῦν δ' οὐθέν ἐστιν. καὶ εὖ δὴ οἱ λέγοντες τὴν ψυχὴν εἶναι τό-
πον εἰδῶν, πλὴν ὅτι οὔτε ὅλη ἀλλ' ἢ νοητική, οὔτε ἐντελε-
§ 5 χεία ἀλλὰ δυνάμει τὰ εἶδη. ὅτι δ' οὐχ ὁμοία ἢ ἀπάθεια
τοῦ αἰσθητικοῦ καὶ τοῦ νοητικοῦ, φανερόν ἐπὶ τῶν αἰσθητηρίων 30
καὶ τῆς αἰσθήσεως. ἡ μὲν γὰρ αἴσθησις οὐ δύναται αἰσθάνε-
σθαι ἐκ τοῦ σφόδρα αἰσθητοῦ, οἷον ψόφου ἐκ τῶν μεγάλων 429^b
ψόφων, οὐδ' ἐκ τῶν ἰσχυρῶν χρωμάτων καὶ ὁσμῶν οὔτε
ὄραν οὔτε ὁσμάσθαι· ἀλλ' ὁ νοῦς ὅταν τι νοήσῃ σφόδρα νοη-
τόν, οὐχ ἥττον νοεῖ τὰ ὑποδεέστερα, ἀλλὰ καὶ μᾶλλον· τὸ
§ 6 μὲν γὰρ αἰσθητικὸν οὐκ ἄνευ σώματος, ὁ δὲ χωριστός. ὅταν 5
δ' οὕτως ἕκαστα γένηται ὡς ἐπιστήμων λέγεται ὁ κατ' ἐνέρ-
γειαν (τοῦτο δὲ συμβαίνει, ὅταν δύνῃται ἐνεργεῖν δι' αὐτοῦ),
ἔστι μὲν ὁμοίως καὶ τότε δυνάμει πως, οὐ μὴν ὁμοίως καὶ

18. ἐπειδὴ SUVWXy.

25. γὰρ ἂν τις LSTUWX.

429^b 1. οἷον

τοῦ ψ. STVXy.

6. ὡς ὁ ἐπ. ELTUVX Tor.

8. ὁμοίως pr. om. pr.

E Tor.

that in which the faculty of sense stands towards the objects of perception. Reason therefore, since it thinks everything must be free from all admixture, in order that, to use the phrase of Anaxagoras, it may rule the world—that is, acquire knowledge: for the adjacent light of any foreign body obstructs it and eclipses it. Its very nature, then, is nothing but just this comprehensive potentiality: and the reason—that is, that function through which the soul is ratiocinative and frames notions—is therefore, previously to the exercise of thought, actually identical with nothing which exists.

This consideration shews how improbable it is that reason should be incorporated with the bodily organism: for if so, it would be of some definite character, either hot or cold, or it would have some organ for its operation, just as is the case with sense. But, as matter of fact, reason has nothing of this character. There is truth, too, in the view of those who say the soul is the source of general ideas: only it is soul not as a whole but in its faculty of reason: and the forms or ideas in question exist within the mind, not as endowments which we already possess, but only as capacities to be developed.

The difference, however, between the impassivity of the faculty of reason and of the faculty of sense is clear from a consideration of the organs and the processes of sense-perception. Sense, for example, is unable to acquire perception from an object which is in too great excess—cannot, to take an instance, perceive sound from extremely loud noises, nor see nor smell anything from too violent colours and odours. Reason, on the contrary, when it applies itself to something extremely intellectual, does not lessen but rather increases its power of thinking inferior objects, the explanation being that the faculty of sense is not independent of the body, whereas reason is separated from it. And since reason becomes each of its objects in the sense in which he who is in actual possession of knowledge is described as knowing—this resulting when he can apply his knowledge by himself—the reason as a developed capacity is similar to what it was previously as a mere unformed faculty though not the same as what it was before it learned or

πρὶν μαθεῖν ἢ εὐρεῖν· καὶ αὐτὸς δὲ αὐτὸν τότε δύναται νο-
 § 7 εἶν. ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι καὶ 10
 ὕδωρ καὶ ὕδατι εἶναι· (οὕτω δὲ καὶ ἐφ' ἐτέρων πολλῶν, ἀλλ'
 οὐκ ἐπὶ πάντων· ἐπ' ἐνίων γὰρ ταυτόν ἐστι·) τὸ σαρκὶ εἶναι
 καὶ σάρκα ἢ ἄλλῳ ἢ ἄλλως ἔχοντι κρίνει· ἢ γὰρ σὰρξ
 οὐκ ἄνευ τῆς ὕλης, ἀλλ' ὥσπερ τὸ σιμόν, τόδε ἐν τῷδε. τῷ
 μὲν οὖν αἰσθητικῷ τὸ θερμὸν καὶ τὸ ψυχρὸν κρίνει καὶ ὧν 15
 λόγος τις ἢ σὰρξ· ἄλλῳ δὲ ἥτοι χωριστῷ, ἢ ὡς ἡ κεκλα-
 σμένη ἔχει πρὸς αὐτὴν ὅταν ἐκταθῇ, τὸ σαρκὶ εἶναι κρί-
 § 8 νει. πάλιν δ' ἐπὶ τῶν ἐν ἀφαιρέσει ὄντων τὸ εὐθὺ ὡς τὸ
 σιμόν· μετὰ συνεχοῦς γάρ· τὸ δὲ τί ἦν εἶναι, εἰ ἔστιν ἕτερον
 τὸ εὐθεῖ εἶναι καὶ τὸ εὐθύ, ἄλλῳ· ἔστω γὰρ δυάς. ἐτέρῳ 20
 ἄρα ἢ ἐτέρως ἔχοντι κρίνει. καὶ ὅλως ἄρα ὡς χωριστὰ τὰ
 § 9 πράγματα τῆς ὕλης, οὕτω καὶ τὰ περὶ τὸν νοῦν. ἀπορήσειε
 δ' ἂν τις, εἰ ὁ νοῦς ἀπλοῦν ἐστὶ καὶ ἀπαθὲς καὶ μηθενὶ μηθεν
 ἔχει κοινόν, ὥσπερ φησὶν Ἀναξαγόρας, πῶς νοήσει, εἰ τὸ
 νοεῖν πάσχειν τί ἐστίν· ἢ γάρ τι κοινὸν ἀμφοῖν ὑπάρχει, τὸ 25
 § 10 μὲν ποιεῖν δοκεῖ τὸ δὲ πάσχειν. ἔτι δ' εἰ νοητὸς καὶ αὐτός.
 ἢ γὰρ τοῖς ἄλλοις ὁ νοῦς ὑπάρξει, εἰ μὴ κατ' ἄλλο αὐτὸς

11. καὶ τὸ ὕδατι E.

13. ἔχοντι om. ELSUV. || κρίνει ὁ νοῦς ἢ EL Ald.

16. ἢ om. SUVWX.

20. ἄλλο TVX Bz.

21. καὶ om. LSTUVX. ||

ἄρα om. pr. E.

23. ἀπλοῦς V.

discovered: and it may in this final stage be said to think itself.

[The difference between sense and reason may be exhibited also in this manner.] There is a difference between magnitude as a simple fact and magnitude as a real notion, just as there is between water and its essential being: as indeed a similar difference holds good in most things, though not in all, there being some abstract objects in which matter and form combine together into one. It is then either by a different faculty, or by a faculty differently applied, that the mind judges of the essential nature of flesh and simple flesh itself, because flesh does not exist independently of matter, but is, like snubnosedness, a definite fact in concrete expression. With the faculty of sense it discriminates the hot and cold and those qualities of which flesh presents us with a certain aspect, whereas with another faculty, either separated from the former or standing to it in the same relation as the bent line to the same line when straightened, it judges of the essential notion of flesh.

And this distinction holds good also of abstract conceptions. The actual straight line, as occupying continuous space, resembles the concrete materially expressed snubnose; whereas the essential idea, if we allow a difference between the notion of straightness and the simple straight line, must be recognised by some other faculty. And now suppose that we define the idea of straightness as duality. It must be with a different or differently applied faculty that mind judges of this real idea: and generally just as the forms of sense can be separated from the matter in which they are embodied, so also can we draw a distinction between the different applications of thought.

The question might, however, here be raised—How, if reason is uncompounded and unaffected by impressions, and has, as Anaxagoras maintains, no community with other objects—how is it to think objects, if thinking be a sort of receptivity; for it is only in so far as there is something common to two objects that the one is thought to produce, the other to receive an impression. And the further question might be raised whether reason itself can be an object of thought. For either reason must be an attribute of other things as well, in case it be held

νοητός, ἐν δέ τε τὸ νοητὸν εἶδει, ἣ μεμιγμένον τι ἔξει, ὁ

§ 11 ποιεῖ νοητὸν αὐτὸν ὥσπερ τᾶλλα. ἣ τὸ μὲν πάσχειν κατὰ
κοινόν τι. διὸ εἴρηται πρότερον, ὅτι δυνάμει πῶς ἐστὶ τὰ νοητὰ 30
ὁ νοῦς, ἀλλ' ἐντελεχεία οὐδέν, πρὶν ἂν νοῇ. δεῖ δ' οὕτως ὥσ-
περ ἐν γραμματείῳ ᾧ μηθὲν ὑπάρχει ἐντελεχεία γεγραμ- 430^a

§ 12 μένον· ὅπερ συμβαίνει ἐπὶ τοῦ νοῦ. καὶ αὐτὸς δὲ νοητός ἐστιν
ὥσπερ τὰ νοητά. ἐπὶ μὲν γὰρ τῶν ἄνευ ὕλης τὸ αὐτό ἐστὶ
τὸ νοοῦν καὶ τὸ νοούμενον· ἣ γὰρ ἐπιστήμη ἢ θεωρητικὴ καὶ
τὸ οὕτως ἐπιστητὸν τὸ αὐτό ἐστίν· τοῦ δὲ μὴ αἰεὶ νοεῖν τὸ αἰ- 5
τιον ἐπισκεπτέον· ἐν δὲ τοῖς ἔχουσιν ὕλην δυνάμει ἕκαστόν
ἐστὶ τῶν νοητῶν. ὥστ' ἐκείνοις μὲν οὐχ ὑπάρξει νοῦς (ἄνευ
γὰρ ὕλης δύναμις ὁ νοῦς τῶν τοιούτων), ἐκείνῳ δὲ τὸ νοητὸν
ὑπάρξει.

V. Ἐπεὶ δ' ὥσπερ ἐν ἀπάσῃ τῇ φύσει ἐστί τι τὸ μὲν 10
ὕλη ἐκάστω γένει (τοῦτο δὲ ὁ πάντα δυνάμει ἐκείνα), ἕτερον
δὲ τὸ αἷτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα, οἷον ἢ τέχνη

30. διείρηται S. || διὸ εἴρηται Ald. διήρηται Vulg.

31. ἂν] ἂν μὴ LVW.

430^a 1. ᾧ om. ESUVXy || ὑπάρχειν SUVX.

8. δύναμις ἐστὶν ὁ LSUVWX.

11. δ] om. γ, ὅτι UVX.

12. τῷ] δ τῷ LTX.

to be an object of thought not through anything outside itself, but simply in and by itself, and supposing that the object of thought is always something homogeneous: or it must have some element compounded with it which makes it capable of being thought like other real things. Or may we not rather hold that the receptivity of reason is possible only in virtue of some common element? And hence it has been already said that reason is in a way potentially one with the ideas of reason, though it is actually nothing but a mere capacity before the exercise of thought. We must suppose, in short, that the process of thought is like that of writing on a writing-tablet on which nothing is yet actually written.

Thus the reason can be thought just in the same way as can objects of thought generally. [For such objects of thought are either immaterial or material.] Now in the case of immaterial objects, the subject thinking and the object thought are one and the same: just as speculative science is equivalent to the objects and ideas of speculative knowledge (a fact, it is true, which leaves the question—why we do not always think, to be investigated). In the case, on the contrary, of those objects which are imbedded in matter, each of the ideas of reason is present, if only potentially and implicitly. And thus reason is not to be regarded as belonging to and governed by the things of sense (reason being a faculty independent of the matter of such objects), but the world of thought must be regarded as belonging to and regulated by reason.

CHAPTER V.

The same differences, however, as are found in nature as a whole must be characteristic also of the soul. Now in nature there is on the one hand that which acts as material substratum to each class of objects, this being that which is potentially all of them: on the other hand, there is the element which is causal and creative in virtue of its producing all things, and which stands towards the other in the same relation as that in which art

πρὸς τὴν ὕλην πέπονθεν, ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπ^ἔχειν
ταύτας τὰς διαφοράς. καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα
γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξις τις, οἷον τὸ φῶς 15
τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώ-
ματα ἐνεργείᾳ χρώματα. καὶ οὗτος ὁ νοῦς χωριστὸς καὶ
§ 2 ἀμιγῆς καὶ ἀπαθής, τῇ οὐσίᾳ ὧν ἐνεργείᾳ. ἀεὶ γὰρ τιμιώτε-
ρον τὸ ποιοῦν τοῦ πάσχοντος καὶ ἡ ἀρχὴ τῆς ὕλης. τὸ δ'
αὐτό ἐστιν ἡ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι· ἡ δὲ 20
κατὰ δυνάμιν χρόνῳ προτέρα ἐν τῷ ἐνί, ὅλως δὲ οὐδὲ χρόνῳ.
ἀλλ' οὐχ ὅτε μὲν νοεῖ ὅτε δ' οὐ νοεῖ. χωρισθεὶς δ' ἐστὶ μόνον
τοῦθ' ὅπερ ἐστί, καὶ τοῦτο μόνον ἀθάνατον καὶ αἰδίου. οὐ
μνημονεύομεν δέ, ὅτι τοῦτο μὲν ἀπαθές, ὁ δὲ παθητικὸς
νοῦς φθαρτός, καὶ ἄνευ τούτου οὐθὲν νοεῖ. 25

VI. Ἡ μὲν οὖν τῶν ἀδιαιρέτων νόησις ἐν τούτοις, περὶ ἃ
οὐκ ἔστι τὸ ψεῦδος· ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές,
σύνθεσίς τις ἤδη νοημάτων ὥσπερ ἐν ὄντων, καθάπερ Ἐμπεδο-
κλῆς ἔφη “ἡ πολλῶν μὲν κόρσαι ἀναύχενες ἐβλάστησαν,”
ἔπειτα συντίθεσθαι τῇ φιλίᾳ. οὕτω καὶ ταῦτα κεχωρισμένα 30
§ 2 συντίθεται, οἷον τὸ ἀσύμμετρον καὶ ἡ διάμετρος. ἂν δὲ γενο-

18. ἀπαθής καὶ ἀμιγῆς EL. Trend. Bekk. || ἐνεργείᾳ] ἐνέργεια Tor.

19.

τὸ δ' αὐτό] αὐτό δ' STUVWXY.

21. οὐδὲ χρόνῳ] οὐ χρ. EL. Trend. Bekk.

22. οὐχ om. Wy. Tor.

31. συντίθεται] συντίθεσθαι STVWY. || διάμετρος

ἡ τὸ σύμμετρον καὶ ἡ διάμετρος W. Tor. Simplic. || γενομένων] γινομένων VWX
Trend.

stands towards the materials on which it operates. Thus reason is, on the one hand, of such a character as to *become* all things, on the other hand of such a nature as to *create* all things, acting then much in the same way as some positive quality, such as for instance light: for light also in a way creates actual out of potential colour.

This phase of reason is separate from and uncompounded with material conditions, and, being in its essential character fully and actually realized, it is not subject to impressions from without: for the creative is in every case more honourable than the passive, just as the originating principle is superior to the matter which it forms. And thus, though knowledge as an actually realized condition is identical with its object, this knowledge as a potential capacity is in time prior in the individual, though in universal existence it is not even in time thus prior to actual thought. Further, this creative reason does not at one time think, at another time not think: [it thinks eternally:] and when separated from the body it remains nothing but what it essentially is: and thus it is alone immortal and eternal. Of this unceasing work of thought, however, we retain no memory, because this reason is unaffected by its objects; whereas the receptive passive intellect (which is affected) is perishable, and can really think nothing without the support of the creative intellect.

CHAPTER VI.

With regard then to the exercise of reason, the thinking of isolated single terms falls within a sphere in which there is no falsity: when, on the other hand, we find both falsity and truth, there we reach a certain combination of ideas as constituting one conception: much in the same way as Empedocles said: "Thereupon many there were whose heads grew up neckless entirely:" but were afterwards brought together by friendship. In a corresponding fashion is it that those notions which are originally separate are afterwards connected, as is, for instance, the case with the two notions incommensurate and

μένων ἢ ἐσομένων, τὸν χρόνον προσεννοῶν καὶ συντιθείς. τὸ 430^b
 γὰρ ψεῦδος ἐν συνθέσει αἰεί· καὶ γὰρ ἂν τὸ λευκὸν μὴ λευ-
 κόν, τὸ μὴ λευκὸν συνέθηκεν. (ἐνδέχεται δὲ καὶ διαίρεσιν
 φάναι πάντα.) ἀλλ' οὖν ἔστι γε οὐ μόνον τὸ ψεῦδος ἢ ἀληθές,
 ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι ἦν ἢ ἔσται. τὸ δὲ ἐν 5
 § 3 ποιοῦν, τοῦτο ὁ νοῦς ἕκαστον. τὸ δ' ἀδιαίρετον ἐπεὶ διχῶς, ἢ
 δυνάμει ἢ ἐνεργείᾳ, οὐθὲν κωλύει νοεῖν τὸ ἀδιαίρετον, ὅταν
 νοῇ, τὸ μῆκος (ἀδιαίρετον γὰρ ἐνεργείᾳ) καὶ ἐν χρόνῳ ἀδιαι-
 ρέτῳ· ὁμοίως γὰρ ὁ χρόνος διαιρετὸς καὶ ἀδιαίρετος τῷ
 μήκει. οὐκ οὖν ἔστιν εἰπεῖν ἐν τῷ ἡμίσει τί ἐνόει ἑκατέρῳ· οὐ 10
 γὰρ ἔστιν, ἂν μὴ διαιρεθῇ, ἀλλ' ἢ δυνάμει. χωρὶς δ' ἐκά-
 τερον νοῶν τῶν ἡμίσεων διαιρεῖ καὶ τὸν χρόνον ἅμα· τότε
 δ' οἰοεὶ μήκη. εἰ δ' ὡς ἐξ ἀμφοῖν, καὶ ἐν τῷ χρόνῳ τῷ
 § 4 ἐπ' ἀμφοῖν. τὸ δὲ μὴ κατὰ ποσὸν ἀδιαίρετον ἀλλὰ τῷ εἶ-
 δει νοεῖ ἐν ἀδιαιρέτῳ χρόνῳ καὶ ἀδιαιρέτῳ τῆς ψυχῆς· 15
 κατὰ συμβεβηκὸς δέ, καὶ οὐχ ἢ ἐκεῖνα διαιρετά, ᾧ νοεῖ
 καὶ ἐν ᾧ χρόνῳ, ἀλλ' ἢ ἀδιαίρετα· ἔνεστι γὰρ καὶ τούτοις
 τι ἀδιαίρετον, ἀλλ' ἴσως οὐ χωριστόν, ὃ ποιεῖ ἓνα τὸν χρόνον
 καὶ τὸ μῆκος. καὶ τοῦθ' ὁμοίως ἐν ᾧ παντί ἐστι τῷ συνεχεῖ

430^b 2. τὸ μὴ λευκὸν λευκὸν σ. Trend.

4. πάντα] ταῦτα coni. To.

7.

τὸ ἀδ.] τὸ διαιρετὸν ἢ ἀδιαίρετον conj. Tor.

10. ἐνόει L. Tor., ἐννοεῖ SVX, ἐνόεις γ,

ἐννοεῖν TUW.

13. μήκει STV.

diagonal. Should the notions in question be, however, related to the past or to the future, thought then adds on the idea of time to that of mere connection. Falsehood, in fact, always involves combination and connection: even in asserting the white to be not white we bring not-white into a combination. It should be added, at the same time, that all this process might be described, not as combination, but rather as disjunction or division. Anyhow it follows that truth or falsehood is not limited to saying that "Cleon is white," but includes the judgment that he was or will be: and the process of thus reducing our ideas into the unity of a single judgment is in each case the work of reason.

Further light is thrown upon this unity of thought by considering that the indivisible and continuous presents itself before us in two forms, either as potential or as actual. There is therefore nothing to prevent us conceiving extended and thus divisible space, at the time when we think it, as indivisible (because as it actually exists it is thus indivisible): and also doing so within an indivisible moment of time, because time, just as extended length, may be conceived of either as divided or as undivided. And therefore it is impossible to state what was thought in each of the two halves of time: because, unless it be divided, there is no such half existing actually, but only potentially: although, in so far as the reason thinks of the two halves separately, it divides the time likewise, and thinks it just as two lengths. If, on the other hand, the reason think its object as consisting of two halves, then it thinks them also in a time which is spread over two halves.

With respect to what is indivisible, not quantitatively but specifically, this the reason thinks within an undivided space of time and with the undivided action of the soul [and this not as an essential property of the object which is indivisible], but as an incidental concomitant of the mental process, and thus not in so far as the mental action and the time are divisible, but rather in so far as they are indivisible. For in such objects also there is something which is indivisible, though perhaps it cannot be separated from its setting—something which makes the time and the length into one; and this also is the case with everything

§ 5 καὶ χρόνῳ καὶ μήκει. ἡ δὲ στιγμή καὶ πᾶσα διαίρεσις, καὶ 20
 τὸ οὕτως ἀδιαίρετον, δηλοῦται ὥσπερ ἡ στέρησις. καὶ ὅμοιος
 ὁ λόγος ἐπὶ τῶν ἄλλων, οἷον πῶς τὸ κακὸν γνωρίζει ἡ
 § 6 τὸ μέλαν· τῷ ἐναντίῳ γάρ πως γνωρίζει. δεῖ δὲ δυνάμει
 εἶναι τὸ γνωρίζον καὶ ἐν εἶναι ἐν αὐτῷ. εἰ δέ τιμι μὴ ἐστίν
 ἐναντίον τῶν αἰτίων, αὐτὸ ἑαυτὸ γινώσκει· καὶ ἐνεργεία ἐστὶ 25
 § 7 καὶ χωριστόν. ἔστι δ' ἡ μὲν φάσις τι κατὰ τινος, ὥσπερ ἡ
 κατάφασις, καὶ ἀληθὴς ἡ ψευδὴς πᾶσα· ὁ δὲ νοῦς οὐ πᾶς,
 ἀλλ' ὁ τοῦ τί ἐστὶ κατὰ τὸ τί ἦν εἶναι ἀληθὴς, καὶ οὐ τι
 κατὰ τινος· ἀλλ' ὥσπερ τὸ ὁρᾶν τοῦ ἰδίου ἀληθές, εἰ δ' ἄν-
 θρωπος τὸ λευκὸν ἡ μὴ, οὐκ ἀληθὲς αἰεί, οὕτως ἔχει ὅσα 30
 ἄνευ ὕλης.

VII. Τὸ δ' αὐτὸ ἐστὶν ἡ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγ- 431^a
 ματι. ἡ δὲ κατὰ δύνάμιν χρόνῳ προτέρα ἐν τῷ ἐνί, ὅλως
 δὲ οὐδὲ χρόνῳ· ἔστι γὰρ ἐξ ἐντελεχείᾳ ὄντος πάντα τὰ γι-
 γνόμενα. φαίνεται δὲ τὸ μὲν αἰσθητὸν ἐκ δυνάμει ὄντος τοῦ
 αἰσθητικοῦ ἐνεργείᾳ ποιοῦν· οὐ γὰρ πάσχει οὐδ' ἀλλοιοῦται. 5
 διὸ ἄλλο εἶδος τοῦτο κινήσεως· ἡ γὰρ κίνησις τοῦ ἀτελοῦς

24. καὶ ἐν εἶναι LTVWX. ἐνεῖναι SUy Trend. Bekk. || ἐν om. W. καὶ μὴ ἐν
 εἶναι αὐτῶν conl. Tor. 25. αἰτίων] ἐναντίων S. 26. conl. Tor. ἔστι δ'

ἡ μὲν κατάφασις τι κατὰ τινος, ὥσπερ καὶ ἡ ἀπόφασις.

431^a I. τὸ αὐτὸ δ'

TUVXy.

4. αἰσθητήριον SVX.

continuous, whether it be so in time or space. But as for the point and everything which is thus arrived at by division, and yet is in this sense indivisible, its character comes to be elucidated in the same way as negation. *perception*

A similar account holds good of other cases. How, for instance, do we come to know evil or black? We may say it is through their opposites. And thus the cognitive faculty must be in such cases potentially both qualities, while at the same time it remains at unity within itself. If, however, there be a causal mental force, which has no contrary opposed to it, such a faculty knows itself by its own agency, and is realized in full activity and independently of all bodily conditions. And thus while every statement, as for instance an affirmation, asserts something of something else, and is in every case either true or false, reason is not in every case placed between the alternatives of truth and falsehood: the conception of the notion in its real nature is intrinsically true, and is not merely an assertion that something belongs to something else. Just in fact as the seeing of the particular quality of sense is always true, while the judgment, whether the white colour is or is not a man is not always true: so similarly the conceptions which are entirely independent of material surroundings are as such always true.

CHAPTER VII.

Actual knowledge has thus been shewn to be identical with the object of knowledge. Potential knowledge is, it is true, in point of time earlier in the individual, although absolutely it is not even so in time, because it is from something actually existing that everything which comes into being is derived. It appears, however, that in sense-perception it is a potential faculty of sense which the sensible object transforms into actuality: in fact, the faculty is not affected or altered by the object of sense [—rather it is realized by its object]. Hence, then, the movement implied in sense-perception is different from ordinary move-

ἐνέργεια ἦν, ἢ δ' ἀπλῶς ἐνέργεια ἑτέρα ἢ τοῦ τετελεσμένου.

- § 2 τὸ μὲν οὖν αἰσθάνεσθαι ὅμοιον τῷ φάναι μόνον καὶ νοεῖν·
 ὅταν δὲ ἡδὺ ἢ λυπηρόν, οἷον καταφᾶσα ἢ ἀποφᾶσα, διώ-
 κει ἢ φεύγει. καὶ ἔστι τὸ ἡδεσθαι καὶ λυπεῖσθαι τὸ ἐνερ- 10
 γεῖν τῇ αἰσθητικῇ μεσότητι πρὸς τὸ ἀγαθὸν ἢ κακόν, ἢ τοι-
 αῦτα. καὶ ἡ φυγὴ δὲ καὶ ἡ ὀρεξις τοῦτο ἢ κατ' ἐνέργειαν,
 καὶ οὐχ' ἕτερον τὸ ὀρεκτικὸν καὶ φευκτικόν, οὐτ' ἀλλήλων οὔτε
 § 3 τοῦ αἰσθητικοῦ· ἀλλὰ τὸ εἶναι ἄλλο. τῇ δὲ διανοητικῇ ψυχῇ
 τὰ φαντάσματα οἷον αἰσθήματα ὑπάρχει. ὅταν δὲ ἀγαθὸν 15
 ἢ κακὸν φήσῃ ἢ ἀποφήσῃ, φεύγει ἢ διώκει. διὸ οὐδέποτε
 νοεῖ ἄνευ φαντάσματος ἢ ψυχῇ· ὥσπερ δὲ ὁ ἀῆρ τὴν κό-
 ρην τοιανδί ἐποίησεν, αὐτὴ δ' ἕτερον· καὶ ἡ ἀκοὴ ὡσαύτως·
 τὸ δὲ ἔσχατον ἔν, καὶ μία μεσότης· τὸ δ' εἶναι αὐτῇ
 § 4 πλείω. τίνι δ' ἐπικρίνει τί διαφέρει γλυκὺ καὶ θερμόν, 20
 εἴρηται μὲν καὶ πρότερον, λεκτέον δὲ καὶ ὧδε. ἔστι γὰρ ἔν
 τι· οὔτω δὲ καὶ ὡς ὅρος, καὶ ταῦτα ἔν τῷ ἀνάλογον καὶ
 τῷ ἀριθμῷ ὃν ἔχει πρὸς ἑκάτερον, ὡς ἐκεῖνα πρὸς ἄλ-
 ληλα· τί γὰρ διαφέρει τὸ ἀπορεῖν πῶς τὰ μὴ ὁμογενῆ κρίνει

7. ἦν om. LSUVX. || ἡ τοῦ] ἡ τοῦ X.

12. δὴ UWX Ald. Sylb., om.

TV. || ταυτὸν T. τὸ αὐτὸ LV. τὸ αὐτὸ ταῦτο conj. Tor. || ἡ κατ' ἐνεργ. Vulg. ἡ
 conj. Trend.

18. αὐτῇ LSTX. Tor.

22. οὐτω δὲ καὶ ἡ στιγμὴ καὶ

ὅλως ὁ ὅρος conj. Tor. || ἔν] ἐν LSVX.

24. τὰ μὴ ὁμ.] μὴ om. TVWy.

ment: for while movement is, as we have seen before, only the realization of something while incomplete, realization taken absolutely is something different, as relating to that which has been completed.

Sense-perception, then, in itself is like mere simple assertion and conception: when, however, the sense perceives something as pleasant or painful, it, so to speak, affirms or denies it—that is, pursues or avoids it. Pleasure and pain, then, are due to the operation of the medium state involved in sense-perception upon that which is good or bad, as such: and pursuit and aversion are equivalent to this state as actual and realized. And thus the faculty of desire and of aversion are not different either from one another or from the faculty of sense: although, indeed, the mode in which they manifest themselves is different. So similarly to the understanding the images of sense-impressions are related just as the impressions themselves are to sense: it is only when the mind proceeds to assert something to be good or bad that it either pursues or avoids its object.

The soul, then, never thinks of anything as good or bad without the help of images of sense. [But this sensuous image is only a condition of its exercise]: it is simply like the air which makes the pupil of such and such a character, while the pupil itself remains different from it, in the same manner as it is also with the hearing: and all the while the ultimate faculty and equalizing medium remain one, although their modes of manifestation may be several.

This ultimate unity is, further, that by which the mind comes to distinguish between separate sensations, such as sweet and hot. This has been already explained, but we may state the matter also in the following manner. There is a unity which stands towards the different sensations much in the same manner as anything which serves as limit to a series: while, further, the ideas themselves are one by the proportion and the numerical relation which makes each stand towards the other in the same relation as that in which the outward qualities are associated with one another. And here, let it be granted, it makes no difference whether we ask how this unity judges of objects that do not fall within one and the same genus, or, on the other

ἢ τὰναντία, οἷον λευκὸν καὶ μέλαν; ἔστω δὴ ὡς τὸ Α τὸ 25
 λευκὸν πρὸς τὸ Β τὸ μέλαν, τὸ Γ πρὸς τὸ Δ ὡς ἐκεῖνα
 πρὸς ἄλληλα· ὥστε καὶ ἐναλλάξ. εἰ δὴ τὰ ΓΔ ἐνὶ εἷη
 ὑπάρχοντα, οὕτως ἔξει ὥσπερ καὶ τὰ ΑΒ, τὸ αὐτὸ μὲν
 καὶ ἔν, τὸ δ' εἶναι οὐ τὸ αὐτό, κακείνο ὁμοίως. ὁ δ' αὐτὸς
 λόγος καὶ εἰ τὸ μὲν Α τὸ γλυκὺ εἷη, τὸ δὲ Β τὸ λευ- 431^b

§ 5 κόν. τὰ μὲν οὖν εἶδη τὸ νοητικὸν ἐν τοῖς φαντάσμασι νοεῖ,
 καὶ ὡς ἐν ἐκείνοις ὥρισται αὐτῷ τὸ διωκτὸν καὶ φευκτόν,
 καὶ ἐκτὸς τῆς αἰσθήσεως, ὅταν ἐπὶ τῶν φαντασμάτων ἦ,
 κινεῖται, οἷον αἰσθανόμενος τὸν φρυκτὸν ὅτι πῦρ, τῇ κοινῇ 5

§ 6 γνωρίζει ὁρῶν κινούμενον, ὅτι πολέμιος. ὅτε δὲ τοῖς ἐν
 τῇ ψυχῇ φαντάσμασιν ἢ νοήμασιν ὥσπερ ὁρῶν λογίζεται
 καὶ βουλευέται τὰ μέλλοντα πρὸς τὰ παρόντα· καὶ ὅταν
 εἴπῃ ὡς ἐκεῖ τὸ ἡδὺ ἢ λυπηρόν, ἐνταῦθα φεύγει ἢ διώκει,
 καὶ ὅλως ἐν πράξει. καὶ τὸ ἄνευ δὲ πράξεως, τὸ ἀληθὲς 10
 καὶ τὸ ψεῦδος ἐν τῷ αὐτῷ γένει ἐστί, τῷ ἀγαθῷ καὶ κακῷ.

§ 7 ἀλλὰ τῷ γε ἀπλῶς διαφέρει καὶ τινί. τὰ δὲ ἐν ἀφαι-
 ρέσει λεγόμενα νοεῖ ὥσπερ ἂν εἰ τὸ σιμόν, ἦ μὲν σιμόν,

28. καὶ τὰ] conl. κἂν εἰ τὰ.

29. κακείνο] conl. Tor. κακείνα.

431^b 5.

φρυκτὸν] φευκτὸν TUVWX Sylb. || κοινῇ] κινήσει Basil. Tor.

11. καὶ] καὶ τῷ

LUX.

12. ἐν om. STUX.

hand, contraries, such as black and white [which do thus belong to one and the same conception]. [Consider, then the question, first of all, relatively to homogeneous objects and conceptions.] Whatever be the relation in which A (the objective quality white) stands to B (objective black); C and D [the idea of white and the idea of black] will stand to one another in the same relation as the former pair. (Hence, of course, also *alternando*: A will stand to C as B to D.) If, then, C and D attach themselves to some one act of mind, they will hold themselves just as A and B—that is, they will be one and the same, though their aspect or mode of existence differs; and the sameness and unity which thus attaches to them will be simply like that of the actual concrete qualities. And the same proportion would result were we to make A represent the sweet and B the white.

Thus then the reason, while employing as its materials the images of sense, grasps from among them general ideas; and in the same manner as it determines for itself within these images what is to be pursued and what avoided, so also outside the actual perception of these objects it is, when engaged merely with the images of sense, stirred up to action. [Thus then the practical reason, in dealing with the perceptions and the images of sense, translates them into ideas of what is good and evil] much in the same way as a man on perceiving a torch-light, which sense presents to himself simply as a fire, comes, by the action of the central sense, when he sees it moved, to know that it signifies the approach of an enemy. Similarly also, when dealing with mere images or notions in the mind, we calculate as if we had the facts before our eyes, and deliberate upon the future in relation to the present. And, further, when the reason in the speculative sphere asserts something to be pleasant or painful, within the practical sphere it pursues it or avoids it, and, in a word, steps forth into action. Independently, however, of action, truth and falsehood are of the same character as good and evil: but they differ in so far as the two former are absolute, the two latter relative to some person or object.

As for so-called abstractions, the mind thinks them just as it might snubnosedness: for just as ^{g_{intu}} *g_{intu}* nosed the mind cannot conceive this abstractedly and by _{is} and but *qua* hollow can by

οὐ κεχωρισμένως, ἥ δὲ κοῖλον, εἴ τις ἐνόει ἐνεργεία, ἄνευ
 τῆς σαρκὸς ἂν ἐνόει ἐν ἡ τὸ κοῖλον. οὕτω τὰ μαθηματικά ¹⁵
 § 8 οὐ κεχωρισμένα ὡς κεχωρισμένα νοεῖ, ὅταν νοῇ ἐκεῖνα. ὅλως
 δὲ ὁ νοῦς ἐστὶν ὁ κατ' ἐνέργειαν τὰ πράγματα νοῶν. ἄρα
 δ' ἐνδέχεται τῶν κεχωρισμένων τι νοεῖν ὄντα αὐτὸν μὴ
 κεχωρισμένον μεγέθους, ἢ οὐ, σκεπτέον ὕστερον.

VIII. Νῦν δὲ περὶ ψυχῆς τὰ λεχθέντα συγκεφαλαιώσαν- ²⁰
 τες, εἰπώμεν πάλιν ὅτι ἡ ψυχὴ τὰ ὄντα πῶς ἐστὶ πάντα.
 ἡ γὰρ αἰσθητὰ τὰ ὄντα ἡ νοητά, ἐστὶ δ' ἡ ἐπιστήμη μὲν
 τὰ ἐπιστητά πῶς, ἡ δ' αἰσθησις τὰ αἰσθητά· πῶς δὲ τοῦτο,
 § 2 δεῖ ζητεῖν. τέμνεται οὖν ἡ ἐπιστήμη καὶ ἡ αἰσθησις εἰς τὰ
 πράγματα, ἡ μὲν δυνάμει εἰς τὰ δυνάμει, ἡ δ' ἐντελε- ²⁵
 χεία εἰς τὰ ἐντελεχεία. τῆς δὲ ψυχῆς τὸ αἰσθητικὸν καὶ
 τὸ ἐπιστημονικὸν δυνάμει ταῦτά ἐστὶ, τὸ μὲν ἐπιστητὸν τὸ
 δὲ αἰσθητὸν. ἀνάγκη δ' ἡ αὐτὰ ἢ τὰ εἶδη εἶναι. αὐτὰ
 μὲν γὰρ δὴ οὐ· οὐ γὰρ ὁ λίθος ἐν τῇ ψυχῇ, ἀλλὰ τὸ
 εἶδος· ὥστε ἡ ψυχὴ ὥσπερ ἡ χεὶρ ἐστὶν· καὶ γὰρ ἡ χεὶρ ^{432a}
 ὄργανόν ἐστὶν ὀργάνων, καὶ ὁ νοῦς εἶδος εἰδῶν καὶ ἡ αἰ-
 § 3 σθησις εἶδος αἰσθητῶν. ἐπεὶ δὲ οὐδὲ πρᾶγμα οὐθέν ἐστὶ
 παρὰ τὰ μεγέθη, ὡς δοκεῖ, τὰ αἰσθητὰ κεχωρισμένον, ἐν
 τοῖς εἶδεσι τοῖς αἰσθητοῖς τὰ νοητά ἐστὶ, τά τε ἐν ἀφαι- ⁵

15. ἐν ἡ om. SUV.
 ρισμένως ὡς κεχωρισμένως.

EL. || εἰς τὰ πρ.] conl. Tor. ὥσπερ καὶ τὰ πρ.

pr. E. 26. τὰ ἐντ.] ἐντε.

|| ταῦτα STUVWXy ταῦτόν
 αἰσθητικὸν τὸ αἰσθητόν Tor.

16. Altera a Simplicio lectio traditur: οὐ κεχω-

17. νοῶν om. LU. pr. E. Tor.

24. εἰς om.

25. τὰ δυνάμει] δυνάμει L. Tor. et

pr. E. 26. τὰ ἐντ.] ἐντε.

|| τοῖς conl. Tor. 27. τὸ ante ἐπ. om. ELSUVX

|| τοῖς conl. Tor. 28. ἐστὶ, τὸ μὲν ἐπιστημονικὸν τὸ ἐπιστητὸν γ' ὁ δὲ

an effort of thought conceive it without the flesh in which the hollowness inheres; so in like manner the mind, in thinking of mathematical forms, conceives them, though not really separated from objects, as if they were so separated. And in general, in fact, reason is the faculty which thinks things in their reality and truth. But as to whether the reason can think anything that is abstract unless it be itself abstract and independent of magnitude—that is a question which must be discussed at a later stage.

CHAPTER VIII.

We will now sum up the conclusions we have made about the soul. The soul, we have seen, is in a way all existing things. For the objects of existence are either objects of sense or objects of thought: and while science is in a way identical with the objects of thought, sense again is one with the objects of sense. How this comes about is a point we must investigate.

Scientific thought and sense-perception thus spread themselves over objects, potential sense and science relating to things potential, actual to things actual. Now the sensitive and the scientific faculty in the soul are potentially these objects—that is to say, the objects of scientific thought on the one hand, the objects of sense on the other. It must be then either the things themselves or their forms with which they are identical. The things themselves, however, they are not: it is not the stone, but simply the form of the stone, that is in the soul. The soul, therefore, is like the hand: for just as the hand is the instrument through which we grasp other instruments, so also reason is the form through which we apprehend other forms, while sense-perception is the form of the objects of sense.

[The forms of reason are not however something different from the things of sense.] As there is, according to the common opinion, no object outside the magnitudes of sense, it follows that the ideas of reason are contained in the forms of sense, both the so-called abstract conceptions and the various qualities and

ρέσει λεγόμενα, καὶ ὅσα τῶν αἰσθητῶν ἔξεις καὶ πάθη. καὶ διὰ τοῦτο οὔτε μὴ αἰσθανόμενος μηθὲν οὐθὲν ἂν μάθοι οὐδὲ ξυνίει· ὅταν τε θεωρῇ, ἀνάγκη ἅμα φάντασμά τι θεωρεῖν· τὰ γὰρ φαντάσματα ὥσπερ αἰσθήματά ἐστι, πλὴν ἄνευ ὕλης. ἔστι δ' ἡ φαντασία ἕτερον φάσεως καὶ 10 ἀποφάσεως· συμπλοκὴ γὰρ νοημάτων ἐστὶ τὸ ἀληθὲς ἢ ψεῦδος. τὰ δὲ πρῶτα νοήματα τίνι διοίσει τοῦ μὴ φαντάσματα εἶναι; ἢ οὐδὲ τᾶλλα φαντάσματα, ἀλλ' οὐκ ἄνευ φαντασμάτων.

ΙΧ. Ἐπεὶ δὲ ἡ ψυχὴ κατὰ δύο ὥρισται δυνάμεις ἡ τῶν 15 ζώων, τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστὶ καὶ αἰσθήσεως, καὶ ἔτι τῷ κινεῖν τὴν κατὰ τόπον κίνησιν, περὶ μὲν αἰσθήσεως καὶ νοῦ διωρίσθω τοσαῦτα, περὶ δὲ τοῦ κινούντος, τί ποτέ ἐστι τῆς ψυχῆς, σκεπτέον, πότερον ἔν τι μόνιον αὐτῆς χωριστὸν ὢν ἢ μεγέθει ἢ λόγῳ, ἢ πᾶσα ἡ ψυχὴ, 20 καὶ εἰ μόνιον τι, πότερον ἰδίον τι παρὰ τὰ εἰωθότα λέγε-
§ 2 σθαι καὶ τὰ εἰρημένα, ἢ τούτων ἔν τι. ἔχει δὲ ἀπορίαν εὐθὺς πῶς τε δεῖ μόρια λέγειν τῆς ψυχῆς καὶ πόσα. τρόπον γάρ τινα ἄπειρα φαίνεται, καὶ οὐ μόνον ἃ τινες λέγουσι διορίζοντες, λογιστικὸν καὶ θυμικὸν καὶ ἐπιθυμητι- 25 κόν, οἱ δὲ τὸ λόγον ἔχον καὶ τὸ ἄλογον· κατὰ γὰρ τὰς

432^a 5. ἐν om. ELSUV.

8. ξυνή LSXy. ξυνέη Tor. ξυνίει ETUVWX.

10. καὶ ἀποφάσεως om. SUV.

13. οὐδὲ ταῦτα φαντ. Ald. Tor.

attributes that determine sensible phenomena. And further, without the aid of sense-perception we never come to learn or understand anything: and whenever we consider something in the mind, we must at the same time contemplate some picture of the imagination: for the pictures of the imagination correspond to the impressions of the senses, except that the former are without material embodiment.

At the same time imagination is something different from affirmation and negation, for it is only by a combination of ideas that we attain to truth and falsehood. But, it may be asked, in what respect will our primary ideas differ from mere images of sense? And to this, perhaps, we may reply that they are, as little as other ideas which we frame, mere images of sense, although never framed without the help of such representative images.

CHAPTER IX.

The soul of animals is, as we have seen before, characterized by two capacities—on the one hand, the cognitive discriminative faculty as shared by understanding and by sense, on the other hand, the faculty of local movement. The nature of sense and intellect has been so far settled: we must now investigate the motive faculty of the soul, and ask whether it is some distinct part of it, separable either actually or by abstraction, or whether, on the contrary, it be the soul taken as a whole: and further, if it be some one part of the soul, whether it be some special part different from these usually recognised and enumerated, or whether, on the contrary, it is some one of these which have been stated.

An immediate question which arises is—in what sense are we to speak of parts of the soul, and how many are there of them. From one point of view such parts appear innumerable, and not confined merely to the “rational,” “spirited,” and “appetitive” parts which some distinguish, or the rational and irrational which others enumerate. The characteristics, on the ground of which they distinguish these, shew also other parts further dis-

- διαφορὰς δι' ἃς ταῦτα χωρίζουσι, καὶ ἄλλα φανεῖται
 μόρια μείζω διάστασιν ἔχοντα τούτων, περὶ ὧν καὶ νῦν
 εἴρηται, τό τε θρεπτικόν, ὃ καὶ τοῖς φυτοῖς ὑπάρχει καὶ
 πᾶσι τοῖς ζώοις, καὶ τὸ αἰσθητικόν, ὃ οὔτε ὡς ἄλογον οὔτε 30
- § 3 ὥς λόγον ἔχον θεῖν ἂν τις ῥαδίως. ἔτι δὲ τὸ φανταστικόν,
 ὃ τῷ μὲν εἶναι πάντων ἕτερον, τίνι δὲ τούτων ταῦτὸν ἢ ἔτε- 432^b
 ρον, ἔχει πολλὴν ἀπορίαν, εἴ τις θήσει κεχωρισμένα μό-
 ρια τῆς ψυχῆς. πρὸς δὲ τούτοις τὸ ὀρεκτικόν, ὃ καὶ λόγῳ
 καὶ δυνάμει ἕτερον ἂν δόξειεν εἶναι πάντων. καὶ ἄτοπον δὴ
 τοῦτο διασπᾶν· ἔν τε τῷ λογιστικῷ γὰρ ἡ βούλησις γίνεται, 5
 καὶ ἐν τῷ ἀλόγῳ ἡ ἐπιθυμία καὶ ὁ θυμός· εἰ δὲ τρία ἡ
- § 4 ψυχὴ, ἐν ἐκάστῳ ἔσται ὅρεξις. καὶ δὴ καὶ περὶ οὗ νῦν ὁ
 λόγος ἐνέστηκε, τί τὸ κινεῖν κατὰ τόπον τὸ ζῶον ἔστιν; τὴν
 μὲν γὰρ κατ' αὐξήσιν καὶ φθίσιν κίνησιν, ἅπασιν ὑπάρχον-
 σαν, τὸ πᾶσιν ὑπάρχον δόξειεν ἂν κινεῖν τὸ γεννητικόν καὶ 10
 θρεπτικόν. περὶ δὲ ἀναπνοῆς καὶ ἐκπνοῆς καὶ ὕπνου καὶ
 ἐγρηγόρσεως ὕστερον ἐπισκεπτέον· ἔχει γὰρ καὶ ταῦτα πολ-
- § 5 λὴν ἀπορίαν. ἀλλὰ περὶ τῆς κατὰ τόπον κινήσεως, τί τὸ
 κινεῖν τὸ ζῶον τὴν πορευτικὴν κίνησιν, σκεπτέον. ὅτι μὲν οὖν
 οὐχ ἡ θρεπτικὴ δύναμις, δηλόν· αἰεὶ τε γὰρ ἕνεκά του ἡ κίνη- 15
 σις αὕτη, καὶ ἡ μετὰ φαντασίας ἡ ὀρέξεώς ἐστιν· οὐθεν γὰρ
 μὴ ὀρεγόμενον ἡ φεῦγον κινεῖται ἀλλ' ἡ βία. ἔτι καὶ τὰ
 φυτὰ κινητικὰ ἦν, καὶ εἶχε τι μόριον ὀργανικόν πρὸς τὴν
- § 6 κίνησιν ταύτην. ὁμοίως δὲ οὐδὲ τὸ αἰσθητικόν· πολλὰ γάρ
 ἐστὶ τῶν ζώων ἃ αἰσθῆσιν μὲν ἔχει, μόνιμα δ' ἐστὶ καὶ ἀκί- 20
 νητα διὰ τέλους. εἰ οὖν ἡ φύσις μήτε ποιεῖ μάτην μηθέν
 μήτε ἀπολείπει τι τῶν ἀναγκαίων, πλὴν ἐν τοῖς πηρώμασι

27. ταύτας EL. || φαίνεται TUWXY.

τοῦτο φάναι διασπᾶν VW.

LSTUVXY.

432^b 4, 5. δὴ τὸ [τοῦτο] διασπᾶν. Tor.

9. ἅπασιν ὑπάρχουσιν] αἱ πᾶσιν ὑπάρχουσι

22. τι om. LSTUVXY.

tant from each other than these are—the parts in question being just those which we have before described—the vegetative, which is an attribute at once of plants and every animal—the sentient, which cannot be easily classed either as rational or irrational—and, further, the imaginative faculty, which is different in its action and aspect from all, while with which of them is it either the same or different is a question full of perplexities, if we assume so many distinct parts of soul. Besides these, there is the conative or desiring faculty, which would seem to be different from all, both in its conception and in its capacity for action. Now, it is absurd to parcel this out in the manner indicated. The settled wish [which is one of its aspects] constitutes itself within the rational part of soul, while the appetite and passion, which are its other factors, lie within the sphere of the irrational. And thus, if there be three parts of the soul, desire will have to be present in each of them.

To return, then, to our original question—What is the part that communicates local movement to the animal? As for the movements of growth and decay, they would seem, as they are the attributes of all animals, to be caused by those powers of production and nutrition which characterize all animal life: and with regard to respiration and expiration, as also sleep and waking, we must investigate their nature on another occasion, as they are marked by many difficulties. Our present task is to investigate the nature of local movement, and see what it is that moves the animal in the way of progressive movement. Evidently it is not the mere vegetative capacity which does so. Local movement is always directed to some end, and is accompanied either by a representative image or by a desire, since nothing—unless indeed its movement be the result of force—moves without seeking either to gain or to escape something. And further, plants would be capable of local movement and would possess some part instrumental for this movement.

As little is it the faculty of sense which causes local movement. There are many animals which possess sense powers and yet continue throughout fixed and unmoved. But nature makes nothing without a purpose, nor leaves anything mutilated and imperfect forms excepted, without that which it requires. Now

καὶ ἐν τοῖς ἀτελέσιν· τὰ δὲ τοιαῦτα τῶν ζώων τέλεια καὶ οὐ πηρώματά ἐστιν· σημεῖον δ' ὅτι ἔστι γεννητικὰ καὶ ἀκμὴν ἔχει καὶ φθίσιν· ὥστ' εἶχεν ἂν καὶ τὰ ὀργανικὰ μέρη τῆς 25

§ 7 πορείας. ἀλλὰ μὴν οὐδὲ τὸ λογιστικὸν καὶ ὁ καλούμενος νοῦς ἐστὶν ὁ κινῶν· ὁ μὲν γὰρ θεωρητικὸς οὐθὲν νοεῖ πρακτόν, οὐδὲ λέγει περὶ φευκτοῦ καὶ διωκτοῦ οὐθέν, ἡ δὲ κίνησις ἢ φεύγον- τός τι ἢ διώκοντός τί ἐστιν. ἀλλ' οὐδ' ὅταν θεωρῇ τι τοιοῦτον, ἥδη κελεύει φεύγειν ἢ διώκειν, οἷον πολλάκις διανοεῖται 30 φοβερόν τι ἢ ἡδύ, οὐ κελεύει δὲ φοβεῖσθαι, ἡ δὲ καρδία

§ 8 κινεῖται, ἂν δ' ἡδύ, ἕτερόν τι μόριον. ἔτι καὶ ἐπιτάττοντος 433^a τοῦ νοῦ καὶ λεγούσης τῆς διανοίας φεύγειν τι ἢ διώκειν οὐ κινεῖται, ἀλλὰ κατὰ τὴν ἐπιθυμίαν πράττει, οἷον ὁ ἀκρατής. καὶ ὅλως δὲ ὁρῶμεν ὅτι ὁ ἔχων τὴν ἱατρικὴν οὐκ ἰᾶται, ὡς ἐτέρου τινὸς κυρίου ὄντος τοῦ ποιεῖν κατὰ τὴν ἐπιστήμην, ἀλλ' 5 οὐ τῆς ἐπιστήμης. ἀλλὰ μὴν οὐδ' ἡ ὄρεξις ταύτης κυρία τῆς κινήσεως· οἱ γὰρ ἐγκρατεῖς ὀρεγόμενοι καὶ ἐπιθυμοῦντες οὐ πράττουσιν ὧν ἔχουσι τὴν ὄρεξιν, ἀλλ' ἀκολουθοῦσι τῷ νῷ.

X. Φαίνεται δέ γε δύο ταῦτα κινούμενα, ἡ ὄρεξις ἡ νοῦς, εἴ τις τὴν φαντασίαν τιθείη ὡς νόησίν τινα. πολλὰ γὰρ παρὰ 10 τὴν ἐπιστήμην ἀκολουθοῦσι ταῖς φαντασίαις, καὶ ἐν τοῖς ἄλλοις ζώοις οὐ νόησις οὐδὲ λογισμὸς ἐστίν, ἀλλὰ φαντασία.

24. ἔστι om. LSTUVWXY.
ἀλόγοις W.

27. νοεῖ] θεωρεῖ EL.

433^a II. ἄλλοις]

the animals in question are perfect, and not mutilated: they possess generative powers, and exhibit both development and decay. And therefore [—if sense alone were a sufficient reason for the exercise of local movement—] such animals would possess all the parts instrumental for movement.

Neither, further, is the ratiocinative part, nor the so-called reason, that which produces movement. The speculative reason thinks nothing which relates to action, nor does it assert anything with regard to the object of pursuit and aversion: whereas movement is invariably connected with one either pursuing or avoiding something. Nor indeed, even when the reason reflects on something of this character, does it even then advise the individual either to pursuit or to aversion. Frequently, for example, the reason thinks of something terrible or pleasant, but it does not thereby produce fear: the only result is that the heart, in case the object be terrible, or some other part, in case it be pleasant, is excited. Furthermore, even when reason gives a command, and understanding bids us either avoid or pursue something, the individual is not moved accordingly, but follows the direction of appetite, as may be seen in the incontinent. So also, in general, we see that the man who understands the art of healing does not on that account therefore heal, a fact which shews that it requires something besides knowledge to produce the results of knowledge: and that scientific knowledge is itself unable to effect this end.

Lastly, desire is not fitted to produce this movement: the continent, though subject to desire and appetite, do not do these things for which they possess a desire, but follow, on the contrary, the lead of reason.

CHAPTER X.

There are, however, at least two faculties which are manifestly motive—viz., desire or reason, if we regard imagination as a form of reason. Frequently, in fact, it is the pictures of imagination as against knowledge that people follow, and among animals other than man it is not thought nor ratiocination, but simply this power of representing images of sense,

- ἄμφω ἄρα ταῦτα κινητικὰ κατὰ τόπον, νοῦς καὶ ὄρεξις.
- § 2 νοῦς δὲ ὁ ἕνεκά του λογιζόμενος καὶ ὁ πρακτικός· διαφέρει δὲ τοῦ θεωρητικοῦ τῷ τέλει. καὶ ἡ ὄρεξις ἕνεκά του πᾶσα· οὐ¹⁵ γὰρ ἡ ὄρεξις, αὕτη ἀρχὴ τοῦ πρακτικοῦ νοῦ· τὸ δ' ἔσχατον ἀρχὴ τῆς πράξεως. ὥστε εὐλόγως ταῦτα δύο φαίνεται τὰ κινούμενα, ὄρεξις καὶ διάνοια πρακτική· τὸ ὀρεκτικὸν γὰρ κινεῖ, καὶ διὰ τοῦτο ἡ διάνοια κινεῖ, ὅτι ἀρχὴ αὐτῆς ἐστὶ τὸ
- § 3 ὀρεκτόν. καὶ ἡ φαντασία δὲ ὅταν κινῇ, οὐ κινεῖ ἄνευ ὀρέ-²⁰ξεως. ἐν δὴ τι τὸ κινεῖν, τὸ ὀρεκτόν. εἰ γὰρ δύο, νοῦς καὶ ὄρεξις, ἐκίνουν, κατὰ κοινὸν ἂν τι ἐκίνουν εἶδος. νῦν δὲ ὁ μὲν νοῦς οὐ φαίνεται κινῶν ἄνευ ὀρέξεως· ἡ γὰρ βούλησις ὄρεξις· ὅταν δὲ κατὰ τὸν λογισμὸν κινῇται, καὶ κατὰ βούλησιν κινεῖται. ἡ δ' ὄρεξις κινεῖ παρὰ τὸν λογισμὸν· ἡ γὰρ ἐπιθυ-²⁵
- § 4 μία ὄρεξις τις ἐστίν. νοῦς μὲν οὖν πᾶς ὀρθός, ὄρεξις δὲ καὶ φαντασία καὶ ὀρθὴ καὶ οὐκ ὀρθή. διὸ αἰεὶ κινεῖ μὲν τὸ ὀρεκτόν, ἀλλὰ τοῦτ' ἐστὶν ἢ τὸ ἀγαθὸν ἢ τὸ φαινόμενον ἀγαθόν· οὐ πᾶν δέ, ἀλλὰ τὸ πρακτὸν ἀγαθόν· πρακτὸν δ' ἐστὶ
- § 5 τὸ ἐνδεχόμενον καὶ ἄλλως ἔχειν. ὅτι μὲν οὖν ἡ τοιαύτη δύ-³⁰ναμις κινεῖ τῆς ψυχῆς ἢ καλουμένη ὄρεξις, φανερόν. τοῖς δὲ διαιροῦσι τὰ μέρη τῆς ψυχῆς, ἐὰν κατὰ τὰς δυνάμεις⁴³³ διαιρῶσι καὶ χωρίζωσι, πάμπολλα γίνεται, θρεπτικόν, αἰ-

18. ὀρεκτόν EL. Trend. Tor.: ceteri ὀρεκτικόν.

29. πρακτικὸν ἀγ. L.

which guides them. Both then reason and desire are fitted to produce and lead to local movement. The reason which is here intended is that which calculates for some purpose—that is, it is the practical reason, distinguished from the speculative by its end. As for desire, *it* is always directed to some object: in fact, it is the object at which desire aims that forms the starting-point of the practical reason, although it is some particular detail which forms the beginning of the action.

It is then on good grounds that people have viewed as springs of action these two faculties of desire and practical intellect: for the faculty of desire has itself a motive force, and the intellect excites to action just in so far as the object of desire supplies it with a starting-point: just as, similarly, imagination when it moves to action does not do so independently of desire.

The spring of action thus resolves itself into one single thing, viz. the object of desire. For if there were two faculties acting as springs to action—reason on the one hand, desire on the other—they would have to move in virtue of some common character they shared. Now reason, it is found, does not act as a spring of action independently of desire: for settled wish is a form of desire, and when a man is led to act according to his reasonable conviction he is moved also in a manner corresponding to his wish. Desire, however, excites to action contrarily to reason, appetite, which so acts, being one of the forms of desire. And thus, then, it would seem, reason is always true and right, whereas desire and imagination may be both right and not right.

It is then always the object of desire that moves to action: and this is either the good or the apparent good—not good, however, as a whole, but simply that form of it which relates to action—that is, which is contingent and admits of being other than it is.

Evidently, therefore, it is such a faculty of the soul, the so-called principle of desire, which moves to action. Those, then, that divide the soul into different parts must, if a difference of powers be the basis of their separation, recognise a great variety of such parts—the nutrient, sentient, rational, deliberative, and,

σθητικόν, νοητικόν, βουλευτικόν, ἔτι ὀρεκτικόν· ταῦτα γὰρ πλεόν διαφέρει ἀλλήλων ἢ τὸ ἐπιθυμητικόν καὶ θυμικόν.

- § 6 ἐπεὶ δ' ὀρέξεις γίνονται ἐναντίαι ἀλλήλαις, τοῦτο δὲ συμ- 5
βαίνει ὅταν ὁ λόγος καὶ ἡ ἐπιθυμία ἐναντίαι ᾧσι, γίνεται
δ' ἐν τοῖς χρόνου αἰσθησιν ἔχουσιν (ὁ μὲν γὰρ νοῦς διὰ τὸ
μέλλον ἀνθέλκειν κελεύει, ἡ δ' ἐπιθυμία διὰ τὸ ἤδη φαί-
νεται γὰρ τὸ ἤδη ἡδὺ καὶ ἀπλῶς ἡδὺ καὶ ἀγαθὸν ἀπλῶς,
διὰ τὸ μὴ ὄραν τὸ μέλλον), εἶδει μὲν ἐν ᾧ εἴη τὸ κινεῖν τὸ 10
ὀρεκτικόν, ἢ ὀρεκτικόν, πρῶτον δὲ πάντων τὸ ὀρεκτόν (τοῦτο
γὰρ κινεῖ οὐ κινούμενον τῷ νοηθῆναι ἢ φαντασθῆναι), ἀριθμῶ
§ 7 δὲ πλείω τὰ κινεῖντα. ἐπειδὴ δ' ἐστὶ τρία, ἐν μὲν τὸ κινεῖν,
δεύτερον δ' ᾧ κινεῖ, τρίτον τὸ κινούμενον· τὸ δὲ κινεῖν διττόν,
τὸ μὲν ἀκίνητον, τὸ δὲ κινεῖν καὶ κινούμενον· ἔστι δὲ τὸ μὲν 15
ἀκίνητον τὸ πρακτὸν ἀγαθόν, τὸ δὲ κινεῖν καὶ κινούμενον τὸ
ὀρεκτικόν (κινεῖται γὰρ τὸ ὀρεγόμενον ἢ ὀρέγεται, καὶ ἡ
ὀρεξις κίνησις τίς ἐστίν ἢ ἐνέργεια), τὸ δὲ κινούμενον τὸ ζῶον
ᾧ δὲ κινεῖ ὀργάνῳ ἢ ὀρεξις, ἤδη τοῦτο σωματικόν ἐστίν· διὸ
ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ 20
§ 8 αὐτοῦ. νῦν δὲ ὡς ἐν κεφαλαίῳ εἰπεῖν, τὸ κινεῖν ὀργανικῶς
ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτό, οἷον ὁ γιγγλυμός· ἐν-
ταῦθα γὰρ τὸ κυρτόν καὶ κοῖλον τὸ μὲν τελευτὴ τὸ δ'
ἀρχή· διὸ τὸ μὲν ἡρεμεῖ τὸ δὲ κινεῖται, λόγῳ μὲν ἕτερα

433^b 9. ἡδη om. E.

16. τὸ post κιν. om. ELSUV.

17. ὀρεγόμενον]

κινούμενον ELSUVW Bekk.

18. τις om. TWXy. || ἢ ἐνέργεια] ἢ ἐνεργεία

Tor.

22. γινγλυμός E. γιγλυμός X. γιγλυσμός STV. γιγγλυμός, Bekk. Tor.

further, the conative or desiring—all these being separated by wider differences from one another than are the principle of appetite and that of spirited indignation.

The very opposition of desires itself attests the oneness of the motive faculty. Such opposition happens when the reason and the appetite come together into conflict and displays itself in beings with a sense of time. With such beings, reason, from its perception of the future, enjoins resistance on the mind, while appetite is influenced by a present which is vanishing: for that which is momentarily pleasant appears both absolutely pleasant and absolutely good, because the future is unseen. Now, such a conflict of desires requires that the motive agent, the principle of desire, as such, should be specifically but one: and the most primary of all is the object of desire, for this, without being itself moved, creates movement by being made an object of thought or presented before us by imagination. Numerically, however, the motive agents may be several. Now, there are three elements in motion, one being the object which produces movement, the second that by which it moves, and the third the object which is moved. Now, of these three, the object which produces movement is two-fold, being on the one hand itself unmoved, and on the other hand not only moving but also moved. That then which while it produces movement remains itself unmoved is the good as applied to action: the element which at once sets and is set in movement is the faculty of desire (for the subject desiring is moved, in so far as it desires, and desire itself is a form of movement so far as it manifests itself in action): the object which is moved is the living being.

As for the organ through which desire produces movement, that is necessarily of corporeal nature: and must therefore be investigated among the functions common to the body and the soul. If we may, however, speak for the present summarily on the subject, that which moves instrumentally must be such that in it beginning and end coincide, as is the case, for instance, with the pivot of a joint: for there both convex and concave meet together, the one acting as end, the other as beginning. Hence, while the one part is at rest, the other is in movement—that is, the two, while different in their purpose or idea, are in real mag-

ὄντα, μεγέθει δ' ἀχώριστα· πάντα γὰρ ὥσει καὶ ἔλξει κινεῖται. 25
 διὸ δεῖ ὥσπερ ἐν κύκλῳ μένειν τι, καὶ ἐντεῦθεν ἄρ-
 § 9 χεσθαι τὴν κίνησιν. ὅλως μὲν οὖν, ὥσπερ εἴρηται, ἡ ὀρεκτικὸν
 τὸ ζῶον, ταύτῃ αὐτοῦ κινητικόν· ὀρεκτικὸν δὲ οὐκ ἄνευ
 φαντασίας· φαντασία δὲ πᾶσα ἡ λογιστικὴ ἡ αἰσθητική.
 ταύτης μὲν οὖν καὶ τὰ ἄλλα ζῶα μετέχει.

30

XI. Σκεπτέον δὲ καὶ περὶ τῶν ἀτελῶν, τί τὸ κινεῖν ἐστίν,
 οἷς ἀφ' ἧς μόνον ὑπάρχει αἰσθησις, πότερον ἐνδέχεται φαν- 434^a
 τασίαν ὑπάρχειν τούτοις, ἢ οὐ, καὶ ἐπιθυμίαν. φαίνεται γὰρ
 λύπη καὶ ἡδονὴ ἐνοῦσα. εἰ δὲ ταῦτα, καὶ ἐπιθυμίαν ἀνάγκη.
 φαντασία δὲ πῶς ἂν ἐνείη; ἡ ὥσπερ καὶ κινεῖται ἀορίστως,
 § 2 καὶ ταῦτ' ἔνεστι μὲν, ἀορίστως δ' ἔνεστιν. ἡ μὲν οὖν αἰσθητικὴ 5
 φαντασία, ὥσπερ εἴρηται, καὶ ἐν τοῖς ἄλλοις ζώοις ὑπάρ-
 χει, ἡ δὲ βουλευτικὴ ἐν τοῖς λογιστικοῖς· πότερον γὰρ πρά-
ξει τόδε ἢ τόδε, λογισμοῦ ἤδη ἐστὶν ἔργον· καὶ ἀνάγκη ἐνὶ
 μετρεῖν τὸ μείζον γὰρ διώκει. ὥστε δύναται ἐν ἐκ πλειό-
 νων φαντασμάτων ποιεῖν. καὶ αἴτιον τοῦτο τοῦ δόξαν μὴ 10
 δοκεῖν ἔχειν, ὅτι τὴν ἐκ συλλογισμοῦ οὐκ ἔχει, αὕτη δὲ ἐκεί-

31. ἀτελῶν] ἄλλων L.
 ἀλόγοις TWy.

434^a 4. ἀόριστος LTUVWXY.
 7. λογικοῖς WXY.

6. ἄλλοις]

nitude inseparable: for all movement is the result of impulse or attraction, and there must be therefore always something which remains fixed, like the centre of a circle, as the source from which movement may begin.

Generally then it is, as has been said, in so far as the animal is endowed with the faculty of desire that it is capable of moving itself. But no animal can be provided with the faculty of desire unless it have imaginative power. Now, all such power is connected either with the reason or the senses: and in it other animals besides men participate.

CHAPTER XI.

[Desire then, thus depending on the power of representing images of sense], it falls to us to ask, besides, what is the motive force in those imperfect animals which possess no sense but that of touch, and see whether it is or is not possible for imagination and appetite to belong to them. Pleasure and pain they do indeed evidently feel: and if these belong to them, then appetite, it follows, must be there as well. But it is difficult to see how they can have imagination. Perhaps, however, we may say that just as their movements are vague and indeterminate, so also they possess the powers in question, although merely in a vague and imperfect manner.

The simple power of representing images of sense exists, as we have already said, in other animals as well as man. The power, on the contrary, of representing images for deliberation is confined to animals that reason. For the question whether this or that is to be done is work that calls for reason and reflection: and since it is the stronger and the more preferable which desire pursues, it must always measure by one standard, and so it is enabled to form one conception out of several images which represent sensations. Hence the reason why animals, while possessing the faculty of representing images of sense, are not thought to have opinion. They do not possess the kind of desire which forms itself as the conclusion of syllogism, while at the same time such deliberate desire always involves the posses-

§ 3 νην· διὸ τὸ βουλευτικὸν οὐκ ἔχει ἢ ὄρεξις. νικᾷ δ' ἐνίοτε καὶ
 κινεῖ τὴν βούλησιν· ὅτε δ' ἐκείνη ταύτην, ὥσπερ σφαῖρα, ἢ
 ὄρεξις τὴν ὄρεξιν, ὅταν ἀκρασία γένηται. φύσει δὲ αἰὲ ἢ
 ἄνω ἀρχικωτέρα καὶ κινεῖ. ὥστε τρεῖς φοράς ἤδη κινεῖσθαι. 15

§ 4 τὸ δ' ἐπιστημονικὸν οὐ κινεῖται, ἀλλὰ μένει. ἐπεὶ δ' ἢ μὲν
 καθόλου ὑπόληψις καὶ λόγος, ἢ δὲ τοῦ καθ' ἕκαστα (ἢ μὲν
 γὰρ λέγει ὅτι δεῖ τὸν τοιοῦτον τὸ τοιόνδε πράττειν, ἢ δὲ ὅτι
 τόδε τὸ νῦν τοιόνδε, καὶ γὰρ δὲ τοιόσδε) ἤδη αὕτη κινεῖ ἢ
 δόξα, οὐχ ἢ καθόλου. ἢ ἄμφω, ἀλλ' ἢ μὲν ἡρεμοῦσα μάλ- 20
 λον, ἢ δ' οὐ.

XII. Τὴν μὲν οὖν θρεπτικὴν ψυχὴν ἀνάγκη πᾶν ἔχειν ὅτι
 περ ἂν ζῇ καὶ ψυχὴν ἔχει ἀπὸ γενέσεως μέχρι φθορᾶς·
 ἀνάγκη γὰρ τὸ γενόμενον αὐξήσιν ἔχειν καὶ ἀκμὴν καὶ
 φθίσιν, ταῦτα δ' ἄνευ τροφῆς ἀδύνατον· ἀνάγκη ἄρα ἐνεῖναι 25
 τὴν θρεπτικὴν δύναμιν ἐν πᾶσι τοῖς φνομένοις καὶ φθίνουσιν.
 § 2 αἰσθησιν δ' οὐκ ἀναγκαῖον ἐν ἅπασιν τοῖς ζῶσιν· οὔτε γὰρ
 ὅσων τὸ σῶμα ἀπλοῦν, ἐνδέχεται ἀφήν ἔχειν, (οὔτε ἄνευ
 ταύτης οἷόν τε οὐθὲν εἶναι ζῶον·) οὔτε ὅσα μὴ δεκτικὰ τῶν
 § 3 εἰδῶν ἄνευ τῆς ὕλης. τὸ δὲ ζῶον ἀναγκαῖον αἰσθησιν ἔχειν, 30

13. ὥσπερ σφαῖραν σφαῖρα Tor. || ἢ δ' ὄρεξις τὴν ὄρεξιν. conj. Trend.

γένηται] ἐνῇ EL.

19. τὸ νῦν om. LSTUVW. τοῖνον Tor.

23. ἔχει

ELSTUVW. ἐχῇ Xy. Trend. Bekk. || μέχρι] καὶ μέχρι ELW. Tor.

sion of opinion : and thus their desire is destitute of any faculty of deliberation. In the case of man, however, sometimes the images of sense overcome and move the rational volition : sometimes, as in incontinence, two things in turn overcome and stir up one another, desire thus following on desire much as a ball that players toss about : but the normal and natural course is always that in which the superior force of reason is the more supreme, and stimulates to action. Thus, then, altogether there are three courses of movement possible among the springs of action : although, it should be added, the cognitive faculty is not *moved*, but continues permanent. Since, however, this cognitive faculty presents itself, on the one hand, as a conception and judgment about the universal, on the other hand as a conception of the particular—the one asserting that all men of such and such character should do such and such actions, the other explaining that this particular action is of this nature, and that I am an individual of the kind described—it is this latter form of opinion, rather than the universal, that stimulates to action, or it is both of them together, the one, however, more as in repose, the other in activity.

CHAPTER XII.

Everything that is animate and living must, from its birth to the time of its decay, possess the soul which we describe as nutritive : because whatever has been born must exhibit the phenomena of growth, maturity, and dissolution, and this it cannot do apart from food and nourishment. Thus, then, the nutrient capacity must be inherent in all objects that are marked by growth and by decay.

Sensation, on the other hand, need not be present in all things that live : for neither can those objects whose body is altogether simple and uncompounded possess the sense of touch (although without this sense it is impossible to have *animal* life), nor again can those objects which are unable to receive the form without the matter be endowed with the capacity of sense. The animal, however, rightly so-called, must possess the powers

εἰ μὴθὲν μάτην ποιεῖ ἢ φύσις. ἔνεκά του γὰρ πάντα ὑπάρχει τὰ φύσει, ἢ συμπτώματα ἔσται τῶν ἔνεκά του. εἰ οὖν πᾶν σῶμα πορευτικὸν μὴ ἔχον αἰσθησιν, φθείροιτο ἂν καὶ εἰς τέλος οὐκ ἂν ἔλθοι, ὃ ἔστι φύσεως ἔργον· πῶς γὰρ θρέ- 434^b ψεται; τοῖς μὲν γὰρ μονίμοις ὑπάρχει τοῦτο ὅθεν πεφύκασιν.

§ 4 οὐχ οἷόν τε δὲ σῶμα ἔχειν μὲν ψυχὴν καὶ νοῦν κριτικόν, αἰσθησιν δὲ μὴ ἔχειν, μὴ μόνιμον ὄν, γεννητὸν δέ. ἀλλὰ μὴν οὐδὲ ἀγέννητον· διὰ τί γὰρ οὐχ ἔξει; ἢ γὰρ τῇ ψυχῇ βέλτιον 5 ἢ τῷ σώματι. νῦν δ' οὐδέτερον· ἢ μὲν γὰρ οὐ μᾶλλον νοήσει, τὸ δ' οὐθὲν ἔσται μᾶλλον δι' ἐκεῖνο. οὐθὲν ἄρα ἔχει ψυχὴν

§ 5 σῶμα μὴ μόνιμον ἄνευ αἰσθήσεως. ἀλλὰ μὴν εἴγε αἰσθησιν ἔχει, ἀνάγκη τὸ σῶμα εἶναι ἢ ἀπλοῦν ἢ μικτόν. οὐχ οἷόν τε δὲ ἀπλοῦν. ἀφὴν γὰρ οὐχ ἔξει, ἔστι δὲ ἀνάγκη 10

§ 6 ταύτην ἔχειν. τοῦτο δὲ ἐκ τῶνδε δῆλον. ἐπεὶ γὰρ τὸ ζῶον σῶμα ἐμψυχόν ἐστι, σῶμα δὲ ἅπαν ἀπτόν, ἀπτόν δὲ τὸ αἰσθητὸν ἀφῆ, ἀνάγκη καὶ τὸ τοῦ ζώου σῶμα ἀπτικὸν εἶναι, εἰ μέλλει σώζεσθαι τὸ ζῶον. αἱ γὰρ ἄλλαι αἰσθήσεις δι' ἐτέρων αἰσθάνονται, οἷον ὁσφρησις ὀψις ἀκοή· 15 ἀπτόμενον δέ, εἰ μὴ ἔξει αἰσθησιν, οὐ δυνήσεται τὰ μὲν φεύγειν τὰ δὲ λαβεῖν· εἰ δὲ τοῦτο, ἀδύνατον ἔσται σώζε-

§ 7 σθαι τὸ ζῶον. διὸ καὶ ἡ γεῦσις ἐστὶν ὥσπερ ἀφή τις· τρο-

434^b 2. τὸ ὅθεν πέφυκασιν Bekk. Tor.

γὰρ ἔξει Bekk. Trend. Tor.

5. γὰρ οὐχ ἔξει TUVWY.

of sense-perception, if, as we hold, nature produces nothing without a purpose, all natural objects existing for some end, or being the concomitants of objects which exist for some end. Now, if a body were supplied with faculties of movement, but did not have the power of sense-perception, it would be destroyed, and would not attain its end, which it is nature's work to realize. For how, we may ask, will such an organism provide food for itself? It is only those which are stationary that have their food supplied them from their place of origin. Nor, indeed, is it possible that a body should have soul and discriminating reason and not possess sensation, if it be capable of motion and produced by generation. Nor indeed, for that matter, will it make any difference if it be actually unbegotten. For, for what end would such a body be without the faculty of sense? It could only be because its absence would be better for it either as regards its soul or as regards its body. But, as matter of fact, the absence of sense could not possibly contribute to either. The soul will not understand the world better because it is deprived of sense: and the body will not be any more a body because it is without the sensitive capacities.

No body, therefore, not being stationary, possesses soul, without at the same time adding on the faculties of sense. If, however, it possess the faculty of sense, its body must be either simple or compound. It cannot, however, be simple: because in that case it would not have the sense of touch: and this it must necessarily possess. This, in fact, is evident from the following considerations. Since the animal is a body possessed of soul, and every body is tangible: it follows, since the tangible is perceived by touch, that the body of the living animal must be also endowed with the sense of touch, if the animal is to be able to maintain itself. For the other senses, such as smell, sight, and hearing, perceive their objects through the medium of other substances: but if an animal, when it came in contact with different substances, were not to have the sense of touch, it would not be able to avoid some and take others: and under these circumstances it would be impossible for it to preserve itself. Hence taste is, as it were, a sort of touch: for it is applied to nutriment: and nutriment is a body that can be

φῆς γάρ ἐστιν, ἡ δὲ τροφή τὸ σῶμα τὸ ἀπτόν. ψόφος δὲ καὶ χρώμα καὶ ὁσμὴ οὐ τρέφει, οὐδὲ ποιεῖ οὐτ' αὖξῃσιν οὔτε 20 φθίσιν. ὥστε καὶ τὴν γεῦσιν ἀνάγκη ἀφήν εἶναι τινα, διὰ τὸ τοῦ ἀπτοῦ καὶ θρεπτικοῦ αἰσθησιν εἶναι. αὗται μὲν οὖν ἀναγκαῖαι τῷ ζῳῷ, καὶ φανερόν ὅτι οὐχ οἷόν τε ἄνευ § 8 ἀφῆς εἶναι ζῶον. αἱ δὲ ἄλλαι τοῦ τε εὖ ἔνεκα καὶ γένει ζῳῶν ἤδη οὐ τῷ τυχόντι, ἀλλὰ τισίν, οἷον τῷ πορευτικῷ 25 ἀνάγκη ὑπάρχειν· εἰ γὰρ μέλλει σώζεσθαι, οὐ μόνον δεῖ ἀπτόμενον αἰσθάνεσθαι ἀλλὰ καὶ ἄποθεν. τοῦτο δ' ἂν εἴη, εἰ διὰ τοῦ μεταξὺ αἰσθητικὸν εἴη τῷ ἐκείνῳ μὲν ὑπὸ τοῦ § 9 αἰσθητοῦ πάσχειν καὶ κινεῖσθαι, αὐτὸ δ' ὑπ' ἐκείνου. ὥσπερ γὰρ τὸ κινοῦν κατὰ τόπον μέχρι τοῦ μεταβάλλειν ποιεῖ, 30 καὶ τὸ ὦσαν ἕτερον ποιεῖ ὥστε ὠθεῖν, καὶ ἔστι διὰ μέσου ἡ κίνησις, καὶ δὴ τὸ μὲν πρῶτον κινοῦν ὠθεῖ οὐκ ὠθούμενον, τὸ δ' ἔσχατον μόνον ὠθεῖται οὐκ ὦσαν, τὸ δὲ μέσον ἄμφω, πολλὰ δὲ μέσα, οὕτως ἐπ' ἀλλοιώσεως, πλὴν ὅτι μένοντα 435^a ἐν τῷ αὐτῷ τόπῳ ἀλλοιοῖ, οἷον εἰ εἰς κηρὸν βάψει τις, μέχρι τούτου ἐκινήθη, ἕως ἔβαψεν· λίθος δὲ οὐδέν, ἀλλ' ὕδωρ μέχρι πόρρω. ὁ δ' ἀῆρ ἐπὶ πλείστον κινεῖται καὶ ποιεῖ καὶ πάσχει, ἔαν μὲνη καὶ εἰς ἡ. διὸ καὶ περὶ ἀνα- 5 κλάσεως βέλτιον ἢ τὴν ὄψιν ἐξιούσας ἀνακλᾶσθαι, τὸν ἀέρα πάσχειν ὑπὸ τοῦ σχήματος καὶ χρώματος, μέχρι περ οὔ

26. οὐ] οὐδὲν TUX. || μόνον om. TX.

27. αἰσθάνεσθαι] σώζεσθαι TWX.

30. τοῦ] του Tor.

435^a 1. μένοντα VWX. Trend. μένοντος Bekk. Tor.

6. κλᾶσθαι Bekk.

touched. On the other hand, sound and colour and smell supply no nourishment, nor do they cause either growth or dissolution. Taste, therefore, it follows, must be a kind of touch, because it is the sense which perceives the tangible and nutritive.

These two senses, then, of taste and touch are indispensable conditions of animal life: evidently, in fact, the animal cannot possibly exist without the sense of touch. The other senses are directed towards higher ends than mere existence, and do not belong to any class of animals whatever, but only to some particular species of animal. Thus, for example, they must be possessed by the animal capable of forward movement, because the animal, if it is to be preserved, must be able to perceive an object, not only when brought into immediate contact with it, but also when it is some distance from it. Now, this is only possible in case it have the power of perceiving through some intervening medium, this medium being affected and set in motion by the object of sense, while the sense itself in turn is affected by the medium. [We may illustrate by the manner in which movement is communicated.] That which produces local movement continues its effect until it makes a change and the original agent in propulsion causes another object to propel, the movement being effected through the intervening object: and just as the first object that moves propels without being propelled, whereas the last member in the chain is propelled only and does not propel, while the middle links (of which there may be many) are both propelling and propelled, so also is it with the alteration [involved in sense-perception], excepting that the alteration is effected without change of position. Thus, if one were to plunge anything in wax, the wax would be moved so far as one plunged it: a stone under similar treatment would not be moved at all, and water would be so to a still greater degree. Air, on the other hand, is moved to the greatest possible extent, and both impresses and is impressed so long as it continues still and remains a whole. And thus, also, to touch upon the theory of "repercussion," it is better to suppose that the air is affected by the colour and the form, so long as it remains unbroken (and it is so over every smooth surface), than that the visual ray after

ἂν εἷς ᾗ. ἐπὶ δὲ τοῦ λείου ἐστὶν εἷς· διὸ πάλιν οὗτος τὴν ὄψιν κινεῖ, ὥσπερ ἂν εἰ τὸ ἐν τῷ κηρῷ σημεῖον διεδίδото μέχρι τοῦ πέρατος.

10

XIII. Ὅτι δ' οὐχ οἶόν τε ἀπλοῦν εἶναι τὸ τοῦ ζώου σῶμα, φανερόν, λέγω δ' οἶον πύρινον ἢ αέρινον. ἄνευ μὲν γὰρ ἀφῆς οὐδεμίαν ἐνδέχεται ἄλλην αἴσθησιν ἔχειν· τὸ γὰρ σῶμα ἀπτικὸν τὸ ἐμψυχον πᾶν, ὥσπερ εἴρηται. τὰ δὲ ἄλλα ἔξω γῆς αἰσθητήρια μὲν ἂν γένοιτο, πάντα δὲ τῷ¹⁵ δι' ἐτέρου αἰσθάνεσθαι ποιεῖ τὴν αἴσθησιν καὶ διὰ τῶν με-
ταξύ· ἢ δ' ἀφῆ τῷ αὐτῶν ἄπτεσθαί ἐστιν, διὸ καὶ τοῦνομα τοῦτο ἔχει. καίτοι καὶ τὰ ἄλλα αἰσθητήρια ἀφῆ αἰσθάνε-
ται, ἀλλὰ δι' ἐτέρου· αὕτη δὲ δοκεῖ μόνη δι' αὐτῆς. ὥστε τῶν μὲν τοιούτων στοιχείων οὐθὲν ἂν εἴη σῶμα τοῦ ζώου. οὐδὲ²⁰ δὴ γήϊνον. πάντων γὰρ ἢ ἀφῆ τῶν ἀπτῶν ἐστὶν ὥσπερ με-
σότης, καὶ δεκτικὸν τὸ αἰσθητήριον οὐ μόνον ὅσαι διαφο-
ραι γῆς εἰσὶν, ἀλλὰ καὶ θερμοῦ καὶ ψυχροῦ καὶ τῶν ἄλ-
λων ἀπτῶν ἀπάντων· καὶ διὰ τοῦτο τοῖς ὅστοις καὶ ταῖς
θριξὶ καὶ τοῖς τοιούτοις μορίοις οὐκ αἰσθανόμεθα, ὅτι γῆς²⁵
ἐστίν. καὶ τὰ φυτὰ διὰ τοῦτο οὐδεμίαν ἔχει αἴσθησιν, ὅτι⁴³⁵
γῆς ἐστίν· ἄνευ δὲ ἀφῆς οὐδεμίαν οἶόν τε ἄλλην ὑπάρχειν,
τοῦτο δὲ τὸ αἰσθητήριον οὐκ ἔστιν οὔτε γῆς οὔτε ἄλλου τῶν
§ 2 στοιχείων οὐδενός. φανερόν τοίνυν ὅτι ἀνάγκη μόνης ταύτης
στερισκόμενα τῆς αἰσθήσεως τὰ ζῶα ἀποθνήσκουσιν· οὔτε γὰρ⁵
ταύτην ἔχειν οἶόν τε μὴ ζῶον, οὔτε ζῶον ὃν ἄλλην ἔχειν
ἀνάγκη πλὴν ταύτης. καὶ διὰ τοῦτο τὰ μὲν ἄλλα αἰσθη-
τὰ ταῖς ὑπερβολαῖς οὐ διαφθείρει τὸ ζῶον, οἶον χρώμα

15. αἰσθητικά VW.

22. αἰσθητήριον] αἰσθητικόν γ.

it has issued from the eyes and mixed with objects is then reflected and sent back again. Hence this air, itself affected by the object, moves in turn the eyesight, much in the same way as if the impress in the wax were to penetrate through to its extremity.

CHAPTER XIII.

The body of the animal cannot, it is evident, consist of any one single element, such as for instance fire or air. The reason of this is that touch is the necessary pre-supposition of the other senses, because, as we have said, every animate body is also provided with the sense of touch. Now, all the other elements except earth might serve as organs of the senses, but they all effect perception only mediately. Touch, on the contrary, acts by direct contact with its objects, and from this very circumstance, in fact, derives its name: and though the other senses do also perceive by contact, yet it is by contact through a third thing: whereas touch seems to perceive by direct contact on its own part. Thus the body of the animal cannot be composed of any such element as forms the medium to the other senses. Nor yet can it be composed of earth alone. For touch applies itself as a central state to all things tangible, and its organ is fitted to receive, not only the different qualities of earth, but also of the hot and cold, and of all other tangible qualities of body. And hence it is that we have no perception through the bones and hair and such like parts, because they are composed of earth entirely. Plants, again, do not have any powers of sense-perception, because they are composed totally of earth. Apart from touch, however, no other powers of sense-perception can exist: and this organ of touch is composed neither of the earth nor of any other of the elements.

It is manifest, therefore, that the absence of this sense alone must involve the animal's death: for nothing can possess this without being a living animal, nor need the animal, to be an animal, have any sense but this one. Hence the objects of the other senses—such as, for example, colour, sound, and scent—

καὶ ψόφος καὶ ὁσμή, ἀλλὰ μόνον τὰ αἰσθητήρια, ἂν μὴ
κατὰ συμβεβηκός, οἷον ἂν ἅμα τῷ ψόφῳ ὤσις γένηται ¹⁰
καὶ πληγή, καὶ ὑπὸ ὁραμάτων καὶ ὁσμῆς ἕτερα κινεῖται,
ἂ τῇ ἀφῇ φθείρει. καὶ ὁ χυμὸς δὲ ἢ ἅμα συμβαίνει
§ 3 ἀπτικὸν εἶναι, ταύτῃ φθείρει. ἢ δὲ τῶν ἀπτῶν ὑπερβολή,
οἷον θερμῶν καὶ ψυχρῶν καὶ σκληρῶν, ἀναιρεῖ τὸ ζῶον·
παντὸς μὲν γὰρ αἰσθητοῦ ὑπερβολὴ ἀναιρεῖ τὸ αἰσθητήριον, ¹⁵
ὥστε καὶ τὸ ἀπτὸν τὴν ἀφήν, ταύτῃ δὲ ὠρισταὶ τὸ ζῆν·
ἄνευ γὰρ ἀφῆς δέδεικται ὅτι ἀδύνατον εἶναι ζῶον. διὸ ἢ
τῶν ἀπτῶν ὑπερβολὴ οὐ μόνον τὸ αἰσθητήριον φθείρει, ἀλλὰ
καὶ τὸ ζῶον, ὅτι ἀνάγκη μόνην ἔχειν ταύτην. τὰς δ' ἄλ-
λας αἰσθήσεις ἔχει τὸ ζῶον, ὥσπερ εἴρηται, οὐ τοῦ εἶναι ²⁰
ἐνεκα ἀλλὰ τοῦ εὔ, οἷον ὄψιν, ἐπεὶ ἐν ἀέρι καὶ ὕδατι,
ὅπως ὀρά, ὅλως δ' ἐπεὶ ἐν διαφανεί, γεῦσίν τε διὰ τὸ
ἡδὺ καὶ λυπηρόν, ἵνα αἰσθάνηται τὸ ἐν τροφῇ καὶ ἐπιθυμῇ
καὶ κινῆται, ἀκοὴν δὲ ὅπως σημαίνει τι αὐτῷ, γλῶτταν δὲ
ὅπως σημαίνει τι ἑτέρῳ. ²⁵

435^b 16. διώρισταὶ STUX || ζῶον TX.
TUX, σημαίνεται L. Tor.

19. μόνον UX.

24. σημαίνῃ

do not by their excess destroy the animal itself, but only the organ, although it may incidentally destroy the animal frame as well: as, for example, when a push and blow accompany a sound, or when what is directly seen and smelled sets in movement other forces which destroy life by their contact. So also flavour may cause destruction in this manner—in so far, that is, as it is incidentally something tangible.

In the case of objects of touch, however, such as heat and cold and hardness, excess destroys [not only the sense-organ but also] the animal itself. The object of any sense, in fact, destroys, if it be developed to excess, the organ of sense: and in this same way, then, tangible objects destroy the sense of touch. But life itself is constituted by this sense, since, as has been shewn before, the animal cannot exist without the sense of touch. And thus excess in things tangible destroys not only the organ of sense but the animal itself as well, because this is the one sense absolutely essential to animal life; while as regards the other senses, the animal has them, as has been said, not for bare existence, but for the sake of higher ends. Thus, for instance, it possesses sight, so that it may see objects both in air and water, and in general in whatever is transparent. Taste, on the other hand, it possesses for the sake of discriminating the agreeable and disagreeable in food, so that it may desire and move itself accordingly. Hearing, again, it possesses so that it may convey a meaning to itself: the tongue it possesses so that it may express something or other to another.



NOTES.

BOOK FIRST.

CHAPTER I.

The character, method, and problems of psychology constitute the subject-matter of this chapter. Beginning (§ 1) with a statement of the superiority of psychology to other sciences and a short notice of the questions it investigates, the writer passes (§ 2) to a discussion of the method by which psychology should be studied. This question is of course almost inseparable from the character of the problems to be investigated and leads again (§ 4) to the nature of psychological problems and, through the mixed character of the feelings (§§ 9—11), brings the writer to consider the relation between the physiological and the 'dialectical' aspect of psychology.

§ 1. 402^a 2. ἡ κατ' ἀκρίβειαν] The significance of this ground of the superiority of psychology to other sciences is to be found by a consideration of Aristotle's general conception of ἀκρίβεια. The chief passages bearing on this are the following :

Anal. Post. I. 24, 86^a 17, ἡ μᾶλλον ἐξ ἀρχῆς τῆς ἥττον ἀκριβεστέρα ἀπόδειξις. ἔστι δὲ τοιαύτη ἡ καθόλου μᾶλλον. *Metaph.* A. 2. 982^a 25, ἀκριβέσταται δὲ τῶν ἐπιστημῶν αἱ μάλιστα τῶν πρώτων εἰσὶν· αἱ γὰρ ἐξ ἐλαττόνων ἀκριβέστεραι τῶν ἐκ προσθέσεως λεγομένων, οἷον ἀριθμητικὴ γεωμετρία. So in *Eth.* VI. 5, 1141^a 16, σοφία is said to be ἀκριβεστάτη τῶν ἐπιστημῶν : and in *Metaph.* A. 995^a 15, we have τὴν δ' ἀκριβολογίαν τὴν μαθηματικὴν οὐκ ἐν ἅπασιν ἀπαιτητέον ἀλλ' ἐν τοῖς μὴ ἔχουσιν ὕλην. διόπερ οὐ φυσικὸς ὁ τρόπος—a statement rather in contradiction with the present treatise's inclusion of psychology in φυσική. And indeed in *De Coelo*, III. 1, physic is given as an instance of τὰ ἐκ προσθέσεως, and contrasted with τὰ ἐξ ἀφαιρέσεως of mathematics. In claiming therefore ἀκρίβεια for the science which he is

constructing, Aristotle means that it deals with and rests upon elementary truths which may be said to be the basis and starting-point (*ὀρμητήριοιον* in Themistius) for the other sciences : and still more perhaps that the science is self-contained : so in *Eth.* III. 5, 1112^b 1, we have ἀκριβείς καὶ αὐτάρκεις τῶν ἐπιστημῶν. Psychology in fact like every mental science is more or less independent of external facts : the observer is also the observed, the subject and the object coincide. The physicist has to go outside himself for the materials of his study, the psychologist finds them within himself. Thus the expression does not mean the *ingenii acumen* required for the study of the science as Trendelenburg supposes : it refers to the fact that ψυχὴ being the *prius* in the phenomena of life, the ἀρχὴ τῶν ζώων, as Aristotle almost immediately remarks, the science which investigates it reaches nearer to the real truth of things than is the case with more concrete sciences. Psychology in fact holds the same *primary* relation to Ethics, Politics, &c., as Arithmetic according to *Meta.* A. 2, does to Geometry. The commentators take the passage in somewhat of this sense. Themistius, e.g., paraphrases, τῷ μὲν ἀκριβεί διότι καὶ ταῖς ἄλλαις ἐπιστήμαις παρὰ ψυχῆς ἢ ἀκριβεία, τῷ θαυμασίῳ δὲ ὅτι σχεδὸν διὰ πάντων διέκει τῶν ὄντων ἢ τῆς ψυχῆς φύσις ἀπὸ τῆς ἐσχάτης ἀρχομένη τῆς φυσικῆς μέχρι τῆς πρώτης. Simplicius notes, ἀκριβεστέρα δὲ γνώσις ἢ ἀναγκαία καὶ ἀπαράλειπτος καὶ ἡ οἰκία τῷ γνωστῷ, and insists specially on the affinity between the subject knowing and the object known, the fact of συναίσθησις and the ἐπιστροφή of the soul upon itself implied in psychology.

402^a 3. τὴν τῆς ψυχῆς ἱστορίαν] Torstrick reads περὶ τῆς ψυχῆς on the ground that ἱστορία means not *cognitio* but *investigatio*, and that the preposition is therefore necessary. On the meaning of ἱστορία as equivalent to enquiries or researches, De Quincey has some happy remarks (*Essay on Philosophy of Herodotus*). Cp. Introduction, p. xxiv.

402^a 7. ἐπιζητοῦμεν δὲ θεωρήσαι] With this statement of the sphere and questions of psychology, compare and contrast Plato, *Phaedrus*, 271 A, δῆλον ἄρα ὅτι ὁ Θρασύμαχος τε καὶ ὁς ἂν ἄλλος σπουδῇ τέχνην ῥητορικὴν διδῶ πρότον πάση ἀκριβείᾳ γράψει τε καὶ ποιήσει ψυχὴν ἰδεῖν, πότερον ἐν καὶ ὁμοίον πέφυκεν, ἢ κατὰ σώματος μορφὴν πολυειδές, κ.τ.λ.

402^a 6. ἔστι γὰρ αἶον ἀρχὴ τῶν ζώων] This view of the importance of ψυχὴ in the study of animal life is especially emphasized in the *Treatise on the Parts of Animals* : so, e.g., I. 1, 6, ἀπελθούσης γοῦν (ψυχῆς) οὐκέτι ζῶόν ἐστι. For the meaning of ἀρχὴ in Aristotle, see *Metaph.* Δ. 1, 1013, where Aristotle distinguishes six senses in which ἀρχὴ may be used and concludes 1013^a, 17, πασῶν μὲν οὖν κοινὸν τῶν ἀρχῶν τὸ πρώτον εἶναι ὅθεν ἢ ἔστιν ἢ γίγνεται ἢ γινώσκεται. Cf. also *De Gen. Anim.* V. 7, 788^a 14, τοῦτο γὰρ ἐστὶ τὸ ἀρχὴν εἶναι τὸ αὐτὴν μὲν αἰτίαν εἶναι πολλῶν, ταύτης δ' ἄλλο ἄνωθεν μηδέν. See also Cope's *Rhetoric*, Vol. I. p. 126. Its use in the present passage is almost identical with that of the *De Coelo*, II. 2, 284^b 26, ἀρχὰς γὰρ ταύτας λέγω ὅθεν ἄρχονται πρότον αἱ κινήσεις τοῖς ἔχουσιν. And still more closely does it agree with *Meta.* K. 1, 1060^a 1; ἀρχὴ γὰρ τὸ συναναροῦν : that is the

soul is so much the condition of animal life, that its removal involves also the destruction of the animal.

402^a 7. τὴν τε φύσιν αὐτῆς καὶ τὴν οὐσίαν] Notwithstanding that in *Meta.* Δ. 4, 1014^b, φύσις is said to be sometimes equivalent to ἡ τῶν φύσει ὄντων οὐσία, and that further πᾶσα οὐσία φύσις λέγεται, a distinction would seem here to be intended to be drawn between the two terms, and Trendelenburg is probably right in referring φύσις to the external, οὐσία to the internal aspect of the soul: or rather perhaps we may say φύσις refers to the genetic account, the explanation of the process by which the soul passes from merely vegetative functions to the intellectual stage, while οὐσία refers to the essential characteristic (that viz. of a *first entelechy*) which constitutes it equally in all its stages. So in fact the word would seem to be taken by Simplicius who refers φύσις to the investigations of the physical philosopher, οὐσία to the enquiries of the metaphysician.

402^a 8. εἰθ' ὅσα συμβέβηκε περὶ αὐτήν] By the συμβεβηκότα we must understand not so much the merely accidental attributes of soul but rather what the modern logician would call its properties—those qualities, i.e., which are not immediately connoted by soul but are derivatives and consequences of it. See *Metaph.* Δ. 30, 1025^a 30, λέγεται δὲ καὶ ἄλλως συμβεβηκὸς οἷον ὅσα ὑπάρχει ἐκάστῳ καθ' αὐτὸ μὴ ἐν τῇ οὐσίᾳ ὄντα, οἷον τῷ τριγώνῳ τὸ δύο ὀρθὰς ἔχειν. Similarly in *Anal. Post.* I. 7, 75^a 42 science is said to involve a ὑποκείμενον οὐ τὰ πάθη καὶ τὰ καθ' αὐτὰ συμβεβηκότα δηλοῖ ἢ ἀπόδειξις. Cp. Cope's *Rhetoric*, I. 2, § 1, p. 27.

402^a 9. ὧν τὰ μὲν ἴδια πάθη] Here, as Trendelenburg remarks, there is at first sight no real opposition: and we must understand the antithesis to mean that while some properties belong to the mind in and by itself others attach to the soul in connection with the body (ζῶον). By the ἴδια πάθη we must understand particularly thought: by the second class pleasure, pain, sense-perceptions, &c., as Themistius explains.

§ 2. 402^a 12. λέγω δὲ τοῦ περὶ τὴν οὐσίαν καὶ τὸ τί ἐστι] The words would seem practically to mean—the specific and the general character: but perhaps the distinction is not meant to be so sharply drawn as Trendelenburg supposes. By the τί ἐστι Aristotle would seem to understand the general or generic conception of anything—the statement mainly of its genus—while οὐσία is probably used here particularly in the sense of τὸ τί ἦν εἶναι and refers to this general conception embodied in the unity of a single type. Thus we have τὸ πρῶτον ἐνπάρχον ὃ λέγεται ἐν τῷ τί ἐστι τοῦτο γένος, *Meta.* Δ. 28, 1024^b 5: τὸ δὲ γένος βούλεται τὸ τί ἐστι σημαίνειν καὶ πρῶτον ὑποτίθεται τῶν ἐν τῷ ὀρίσμῳ λεγομένων, *Top.* VI. 5, 142^b 28.

402^a 15. τῶν κατὰ συμβεβηκὸς ἰδίων] By ἴδια κατὰ συμβεβηκὸς Aristotle would seem to mean relative properties: qualities which attach to something when viewed in reference to something else. V. *Top.* v. 1, 128^b 10, ἀποδίδοται δὲ τὸ ἴδιον ἢ καθ' αὐτὸ καὶ αἰεὶ, ἢ πρὸς ἕτερον καὶ ποτὲ, οἷον καθ' αὐτὸ μὲν ἀνθρώπου τὸ ζῶον ἡμερον φύσει, πρὸς ἕτερον δὲ οἷον ψυχῆς πρὸς σῶμα, ὅτι τὸ μὲν προστατικὸν τὸ δ' ὑπηρετικὸν ἐστι. Supremacy that is to say is not a

property of soul in and by itself but it is so relatively to body, and thus an ἴδιον κατὰ συμβεβηκός. So again it is an ἴδιον of man relatively to horse to be a biped.

402^a 18. τὸ πραγματευθῆναι] Cope, *Rhet.* I. 1, § 3, notes "The primary sense of doing business or occupying oneself about anything passes to the more limited or special significations of an intellectual pursuit and thence of a 'special study,' a systematic treatment of a particular subject of investigation or practice." Trendelenburg compares *Meta.* B. 2, 997^b 21, K. 1, 1059^b 10, K. 7, 1064^a 3.

402^a 19. πότερον ἀπόδειξις τίς ἐστὶν ἢ διαίρεσις] The difference between the two methods is that between the logical methods of Aristotle and Plato. For Aristotle's conception of ἀπόδειξις the following passages are of importance: *Post. Anal.* I. 13, 81^b 40, μανθάνομεν ἢ ἐπαγωγῇ ἢ ἀποδείξει. ἔστι δ' ἡ μὲν ἀπόδειξις ἐκ τῶν καθόλου, ἡ δ' ἐπαγωγή ἐκ τῶν κατὰ μέρος. But while ἐπαγωγή is thus an important source of knowledge, it is wanting in the necessity and explanation-giving character of ἀπόδειξις. Thus Aristotle writes, *Post. Anal.* II. 5, 91^b 32, οὐδὲ γὰρ ὁ ἐπάγων ἴσως ἀποδείκνυσιν, ἀλλ' ὁμῶς δηλοῖ τι. But this weakness of induction which discovers merely a matter of fact uniformity is removed by the *cogency of proof* which attaches to ἀπόδειξις. For ἀπόδειξις is a συλλογισμὸς δεικτικὸς αἰτίας καὶ τοῦ διὰ τί (*Post. An.* I. 24, 85^b 23); it is τῶν ἀναγκαίων and ἐξ ἀναγκαίων, and it cannot possibly attach to individual sensible things as such—τῶν οὐσιῶν τῶν αἰσθητῶν τῶν καθ' ἕκαστα οὐκ ἔστιν ἀπόδειξις (*Meta.* Z. 15, 1039^b 28). But while ἀπόδειξις thus tries to educe the laws of facts from the general conception which overlies them, it does not do so by any instantaneous leap—it invariably passes from the universal to the particular διὰ τοῦ μέσου: through the help of the less general conception which will form the link of transition and be the cause which explains the particular phenomenon—τὸ μὲν γὰρ αἴτιον τὸ μέσον, ἐν ᾧ πᾶσι δὲ τοῦτο ζητεῖται (*Post. Anal.* II. 2, 90^a 7). Διαίρεσις is defective just in wanting this gradual descent from the universal to the individual. As conceived by Plato and illustrated in the *Sophist* it was the method by means of which we determined the specific character of an object and found out its τί ἐστὶ by bringing it under some general conception and then by successively dividing it, by a lengthy process of dichotomy, caught it (to keep up Plato's metaphor) in the member or members of the division which exactly fitted it. Hence Aristotle regards the Platonic division as involving throughout a *petitio principii*. So he expresses himself in *Prior. Anal.* I. 31, 46^a 31, ἔστι γὰρ ἡ διαίρεσις οἷον ἀσθενὴς συλλογισμός· ὁ μὲν γὰρ δεῖ δεῖξαι αἰτεῖται, συλλογίζεται δ' αἰεὶ τι τῶν ἄνωθεν..... ἐν μὲν οὖν ταῖς ἀποδείξεσιν, ὅταν δέη τι συλλογίσασθαι ὑπάρχειν, δεῖ τὸ μέσον, δι' οὗ γίνεται ὁ συλλογισμός, καὶ ἥττον αἰεὶ εἶναι καὶ μὴ καθόλου τοῦ πρώτου τῶν ἄκρων· ἡ δὲ διαίρεσις τούναντίον βούλεται· τὸ γὰρ καθόλου λαμβάνει μέσον. And in another passage he directs particular attention to the fact that in such dichotomy the difficulty as to *why* the subject of our enquiry must fall under one rather than another member of the division turns up at each single stage of the process. *Post. Anal.* II.

5, 91^b 37, ὥσπερ γὰρ ἐν τοῖς συμπεράσμασι τοῖς ἄνευ τῶν μέσων ἐάν τις εἴπῃ ὅτι τούτων ὄντων ἀνάγκη τοῦτο εἶναι, ἐνδέχεται ἐρωτῆσαι διὰ τί, οὕτως καὶ ἐν τοῖς διαιρετικοῖς ὅροις. τί ἐστὶν ἄνθρωπος; ζῶον θνητόν, ὑπόπουν, δίπουν, ἄπτερον. διὰ τί; παρ' ἐκάστην πρόσθεσιν· ἐρεῖ γὰρ καὶ δείξει τῇ διαίρει, ὡς οἶεται, ὅτι πᾶν ἢ θνητόν ἢ ἀθάνατον. ὁ δὲ τοιοῦτος λόγος ἅπας οὐκ ἐστὶν ὀρίσμος. ὥστ' εἰ καὶ ἀπεδείκνυτο τῇ διαίρει, ἀλλ' ὃ γ' ὀρίσμος οὐ συλλογισμός γίνεται. To a similar effect does Aristotle shew in *Part. Anim.* 1. 3, 642^b 21, that a dichotomy of negatives is impracticable: ἔτι στερήσει μὲν ἀναγκαῖον διαιρεῖν καὶ διαιροῦσιν οἱ διχοτομοῦντες. οὐκ ἔστι δὲ διαφορὰ στερήσεως ἢ στέρησις· ἀδύνατον γὰρ εἶδη εἶναι τοῦ μὴ ὄντος, οἷον τῆς ἀποδίας ἢ τοῦ ἀπτέρου ὥσπερ πτερώσεως καὶ ποδῶν.

402^a 21. ἄλλαι γὰρ ἄλλων ἀρχαί, καθάπερ ἀριθμῶν καὶ ἐπιπέδων] The ἀρχαί of number would be the existence of the unit, the presupposition of superficies would be extension. Aristotle distinguishes between common or universal principles and special or οἰκείαι ἀρχαί, restricted to a particular science and not to be transferred from one science to another. *Anal. Post.* 1. 32, 88^b 27, αἱ γὰρ ἀρχαὶ διτταὶ ἐξ ὧν τε καὶ περὶ ὧν αἱ μὲν οὖν ἐξ ὧν κοιναί, αἱ δὲ περὶ ὧν ἰδία, οἷον ἀριθμός, μέγεθος. And valid reasoning, Aristotle insists, must be conducted with special reference to these specific principles: οἱ μὴ ἐκ τῶν οἰκείων ἀρχῶν λόγοι κενοί, *Gen. An.* 748^a 8. Cp. especially *Post. Anal.* 1. 7, 75^a 38, οὐκ ἄρα ἐστὶν ἐξ ἄλλου γένους μεταβάλλοντα δεῖξαι οἷον τὸ γεωμετρικὸν ἀριθμητικῇ. Then after enumerating the three elements of every demonstration: 1st, the conclusion which is proved: 2nd, the axiomatic principles: and 3rd, the subject-matter, he continues—ἐξ ὧν μὲν οὖν ἡ ἀποδείξις ἐνδέχεται τὰ αὐτὰ εἶναι· ὧν δὲ τὸ γένος ἕτερον ὥσπερ ἀριθμητικῆς καὶ γεωμετρίας, οὐκ ἔστι τὴν ἀριθμητικὴν ἀποδείξιν ἐφαρμόσαι ἐπὶ τὰ τοῖς μεγέθεσι συμβεβηκότα, εἰ μὴ τὰ μεγέθη ἀριθμοὶ εἴσιν.

§ 3. 402^a 24. πότερον τὸδε τι καὶ οὐσία ἢ ποῖον] The commentators refer these general expressions to definite names, Plato being the thinker who regarded soul as an οὐσία, Xenocrates the philosopher who viewed it as a πόσον and the physicists those who identified it with a ποῖον in so far as they considered it a harmony or blending of elements.

§ 4. 402^b 3. νῦν μὲν γὰρ οἱ λέγοντες] The reference as Philoponus points out can hardly be to the *Timaeus* of Plato: probably the older φυσιοῖοι are intended.

§ 5. 402^b 7. τὸ δὲ ζῶον τὸ καθόλου ἦτοι οὐθέν ἐστιν ἢ ὕστερον] The opinion which is here expressed is, as a little attention will shew, *not* the view of Aristotle himself, but simply a continuation of the *hypothetical* alternative suggested in the previous clause to the effect that we can define mind only according to its different particular forms and must not attempt to frame any one general definition of it. The older texts obscured the connection by placing a colon after θεοῦ: a comma is all that is required. The passage is interesting as containing one of the first anticipations of the question which afterwards divided the schools on the question of nominalism and realism. The question is still more definitely stated by Themistius: ἄρ' οἱ τῶν γενῶν

καὶ τῶν εἰδῶν ὁρίσμοι νοημάτων εἰσὶν ὁρίσμοι ἢ φύσεων ἐν τοῖς καθ' ἕκαστον ὑφισταμένοις. This no doubt is conceived principally in regard to definition, but it is substantially the same question as Porphyry *afterwards* raised.

§ 7. 402^b 15. ἀντικείμενα] For the meaning of the term see *Metaφ.* Δ. 10, 1018^a 20, ἀντικείμενα λέγεται ἀντίφασις καὶ τάναντία καὶ τὰ πρὸς τι καὶ στήρησις καὶ ἕξις καὶ ἐξ ὧν καὶ εἰς ἃ ἔσχατα. Here the term would seem to be practically restricted to τὰ πρὸς τι and to be almost equal to 'objects' as the things which are set over against the function. And so as Bonitz observes (*Index* 64^a 18) the word is used here in its local significance.

§ 8. 402^b 16. With the section cp. Introduction, p. xxx.

402^b 25. πάσης γὰρ ἀποδείξεως] γὰρ would seem intended to explain κάλλιστα: This knowledge of a thing through its related phenomena and effects is only practically as good a method as may be: for &c.

403^a 2. διαλεκτικῶς εἴρηται καὶ κενῶς] The meaning of διαλεκτική in Aristotle may be gathered from the following passage:—*Meta.* Γ. 2, 1004^b 17, οἱ γὰρ διαλεκτικοὶ καὶ σοφισταὶ ταῦτὸν μὲν ὑποδύονται σχῆμα τῷ φιλοσόφῳ· ἡ γὰρ σοφιστικὴ φαινόμενη μόνον σοφία ἐστὶ, καὶ οἱ διαλεκτικοὶ διαλέγονται περὶ πάντων...ἐστὶ δὲ ἡ διαλεκτικὴ πειραστικὴ περὶ ὧν ἡ σοφία γνωριστική, ἡ δὲ σοφιστικὴ φαινόμενη οὕσα δ' οὐ. So also in *Meta.* K. 3, 1061^b 8, dialectic and sophistic are said to be both concerned with the συμβεβηκότα or relative and incidental properties of things. Similarly in *Toph.* I. 1, 100^a 30 we read διαλεκτικὸς δὲ συλλογισμὸς ὁ ἐξ ἐνδόξων συλλογιζόμενος; and the πρότασις διαλεκτικὴ is described as that which is open to question, and still unsettled. ἔστι γὰρ πρότασις διαλεκτικὴ πρὸς ἣν ἐστὶν ἀποκρίνασθαι ναὶ ἢ οὐ. Cp. *Anal. Pr.* I. 1, 24^a 25. Cp. *Toph.* I. 10, 104^a 12, εἰσὶ δὲ προτάσεις διαλεκτικαὶ καὶ τὰ τοῖς ἐνδόξοις ὅμοια, καὶ τάναντία καθ' ἀντίφασιν τοῖς δοκοῦσιν ἐνδόξοις εἶναι προτεινόμενα, καὶ ὅσαι δόξαι κατὰ τέχνας εἰσὶ τὰς εὐρημένας. Dialectic then it will be seen is to Aristotle mere formal argument based on probabilities and plausibilities, reasoning which like sophistic only takes up an *abstract* one-sided view of things, and does not attempt to grasp them in their concrete fulness. Thus further διαλεκτικὴ is not unlike λογικὴ in Aristotle's use of the expression: it is vague, empty, verbal argument which deals merely with words, and takes but little account of things, so that κενῶς is the epithet combined at once with 'dialectical' and 'logical' discussion. The opposite mode of treatment corresponds to what Aristotle describes as φυσικῶς. Cp. *Simplicius* (fol. 3) διαλεκτικῶς καὶ κενῶς, ἀντὶ τοῦ λογικῶς καὶ οὐ φυσικῶς...τὴν γὰρ ἐπιπολαιότεραν καὶ οὐ πραγματειώδη γνῶσιν λογικὴν καὶ διαλεκτικὴν ἔωθε προσαγορεύειν.

§ 9. 403^a 7. ὅπως αἰσθάνεσθαι] Perception in all its forms, as including sight, hearing, &c.

403^a 8. εἰ δ' ἐστὶ καὶ τοῦτο φαντασία] The question is discussed particularly in Bk. III., chapters 6—10.

§ 10. 403^a 11. εἰ δὲ μὴ ἐστὶν ἴδιον] Aristotle's argument is that if any mental function is peculiar to the mind, the mind can be separated and exist apart from the body: but that if no function is thus peculiar, mind cannot exist apart from body. It may be remarked on this that the denial of the antece-

dent does not involve the denial of the consequent. Nor does Themistius' 'apology' (Spengel, p. 10) seem to get over this objection. The objector (says Themistius) would seem to forget that the additional word "would be possible" (to be separated) involves not a necessary consequence in regard to which the denial of the consequent involves the denial of the antecedent, but a *contingent* consequence, in which the result is the reverse—*ἡ γὰρ ἀναίρεσις τοῦ ἡγουμένου συναναίρει τὸ ἐπόμενον*.

403^a 14. οὐ μέντοι γ' ἄψεται τούτου χωρισθέν τὸ εὐθύ] τούτου it might be thought admits of being taken either with ἄψεται or with χωρισθέν. With the former construction however, there is the awkwardness of τούτου in the neuter or masculine while referring to σφαῖρα, a feminine; with the latter construction (in which τούτου is taken with χωρισθέν) we may understand the genitive as equal to either χαλκοῦ or, in the more general sense adopted by Philoponus and Simplicius, τοῦ ὑποκειμένου. Bonitz (*Hermes*, VII. 416) reads with E. οὕτω (i.e. κατὰ στιγμήν) in place of τούτου and understands the passage altogether as follows: The straight line as such is possessed of many qualities, as for instance that of touching a brazen circle at some point or other: but it does not follow from this that the straight line as independently existing, and considered abstractedly, touches in this manner: it possesses in short no independent reality since it is continually connected with some body or another.

403^a 18. ἀμα γὰρ τούτοις πάσχει τι τὸ σῶμα] Torstrik regards this clause as the marginal addition of a copyist.

403^a 25. λόγοι ἐννοιολογικοὶ] Trendelenburg aptly compares the λόγοι σπερματικοὶ of the Stoics: and Philoponus paraphrases as εἶδη ἐν ὕλῃ τὸ εἶναι ἔχοντα καὶ οὐ χωριστά.

§ II. 403^a 27. ἥδη φυσικοῦ] ἥδη would seem to mean 'without adding any further arguments.' With this inclusion of psychology in φυσική, may be compared the significant words of Plato, *Phaedrus*, 270 C, ψυχῆς οὖν φύσιν ἀξίως λόγον κατανόησαι οἷε δυνατόν εἶναι ἄνευ τῆς τοῦ ὅλου φύσεως.

403^b 7. τίς οὖν ὁ φυσικός τούτων;] Here, as Trendelenburg observes, we must understand by φυσικός, the physicist as he ought to be—*qualis esse debet ut rei naturam vere exponat*. With the general sentiment cp. the *Metaph.* Z. II. 1037^a 16, οὐ γὰρ μόνον περὶ τῆς ὕλης δεῖ γνωρίζειν τὸν φυσικὸν ἀλλὰ καὶ τῆς κατὰ τὸν λόγον καὶ μᾶλλον: and for Aristotle's conception of φυσική and its relation to psychology, see the Introduction, p. xxvii.

403^b 9. ἡ οὐκ ἔστι τις ὁ περὶ τὰ πάθη τῆς ὕλης τὰ μὴ χωριστά, μηδ' ἢ χωριστὰ κ.τ.λ.] The translation will probably itself indicate the sense in which I think this passage is to be understood. According to this interpretation, Aristotle, after pointing out that the true φυσικός is he who combines at once the material and the ideal explanation of phenomena in his explanation of them, finds himself obliged to ask about the province to be assigned to each of these two separate ways of studying nature (ἐκείνων δὲ δὴ τίς ἐκάτερος;). And to this he replies that there is really no observer who deals with the material side of nature as such—the pure materialist is an unreal abstraction:

the *φυσικός* deals with body in its general and its formal aspect (*τοιουδὶ σώματος, τοιαύτης ὕλης*) and differs only in the *degree* of his idealism from the mathematician and the metaphysician. Taking this view of the passage we must lay particular emphasis on *τοιουδὶ* and on *τοιαύτης* and regard the clause *ὅποσα δὲ μὴ ἢ τοιαῦτα, ἄλλος...τέκτων ἢ ἱατρός* as parenthetical. The parenthesis as I take it simply notices incidentally the special artist as working in a more circumscribed and less general field than the true *φυσικός*. Altogether Aristotle distinguishes four methods of dealing with nature :

- (1) That of the special artist who deals with the *particular* qualities of some particular kind,
- (2) That of the true Physicist who deals with the *general* qualities of generic groups of natural objects,
- (3) That of the Mathematician who deals with the quasi-abstract qualities of all objects, and
- (4) That of the Metaphysician who deals with the most abstract and transcendent qualities of things.

This explanation of the passage corresponds more or less closely with the paraphrase given by Philoponus.

εἰπὼν κατὰ μὲν τὴν ἀρχὴν διαλεκτικοῦ μὲν εἶναι τὸν ἐκ τοῦ εἶδους ὀρισμὸν, φυσικοῦ δὲ τὸν ἐκ τῆς ὕλης, εἶτα προελθὼν καὶ εἰπὼν ὅτι φυσικοῦ ἐστὶν ὁ ἐξ ἀμφοῖν ἀποδιδόμενος ὀρισμὸς, ζητεῖ εἰκότως περὶ τῶν λοιπῶν δύο ὀρισμῶν, τοῦ τε ἐκ τῆς ὕλης μόνης καὶ τοῦ ἐκ τοῦ εἶδους, τίνος ἂν εἴη τεχνίτου ἐκάτερος ὀρισμὸς. καὶ περὶ μὲν τοῦ ἐκ τοῦ εἶδους μόνου ὅτι ἐστὶ διαλεκτικοῦ οὐδὲν λέγει. ἤδη γὰρ εἶπεν. περὶ δὲ τοῦ ἐκ τῆς ὕλης μόνης λέγει ὅτι οὐκ ἐστὶν οὐδεμία τέχνη περὶ ὕλην μόνην καταγινομένη. πᾶσα γὰρ τέχνη εἶδος ἐπιθεῖναι βούλεται τῇ ὑποβεβλημένη ἐαυτῇ ὕλῃ...διὰ μὲν οὖν τοῦ εἰπεῖν περὶ “πάντα” διακρίνει αὐτὸν (i.e. τὸν φυσικὸν) τοῦ καθ’ ἕκαστον τεχνίτου· ἐκείνων γὰρ ἕκαστος περὶ μερικὸν τι ἔχει. διὰ δὲ τοῦ εἰπεῖν τοῦ “τοιούτου σώματος” ἐχώρισεν αὐτὸν τοῦ μαθηματικοῦ.

Trendelenburg explains the passage as meaning that no one treats of matter and its properties which cannot be separated and so far as they cannot be separated, *with the exception of* the physicist engaged in studying all the qualities which attach to a certain kind of body and a certain kind of matter. He proposes therefore as a possible but unnecessary simplification of the text that we should read *ἢ οὐκ ἐστὶ τις ὁ περὶ τὰ πάθη τῆς ὕλης τὰ μὴ χωριστά, μὴδ’ ἢ χωριστά, ἄλλος*· ἀλλ’ ὁ φυσικὸς περὶ ἅπανθ’ κ.τ.λ.

The interpretation given by Trend. agrees with the paraphrase of Themistius and Simplicius : but it would seem to fail to answer the question with which Aristotle sets out as to what is the place of the pure materialist and the metaphysician in explaining nature. According to Trendelenburg’s view Aristotle simply draws the distinction given in the *Metaphysics* between the physicist, the mathematician and the metaphysician : according to the view followed in the translation the writer first points out that undiluted materialism is a mere fiction of philosophy.

403^b 15. *ἢ δὲ κεχωρισμένα, ὁ πρῶτος φιλόσοφος*] Cp. *Meta. E. I, 1026^a 12*, *ἢ μὲν γὰρ φυσικὴ περὶ ἀχώριστα μὲν ἀλλ’ οὐκ ἀκίνητα, τῆς δὲ μαθηματικῆς ἓνα περὶ*

ακίνητα μέν, οὐ χωριστὰ δ' ἴσως, ἀλλ' ὡς ἐν ὕλῃ· ἡ δὲ πρώτη καὶ περὶ χωριστὰ καὶ ἀκίνητα.

403^b 19. καὶ οὐχ ὥσπερ γραμμὴ καὶ ἐπίπεδον] Simplicius comments: τὸ μέν γὰρ ἐπίπεδον ὡς τὸ κοῖλον ἔχει ἄνευ ῥίνος ἐπινοούμενον· ὁ δὲ θυμὸς ὡς τὸ σιμὸν· τὸ γὰρ σιμὸν ἢ ἐν ῥίνι κοιλότης, ὡς ἡ ὀργὴ ὀρεξίς ἀντιληψέσεως ἐν τῇ ζέσει τοῦ περὶ καρδίαν αἵματος.

CHAPTER II.

The second chapter begins that historical retrospect of previous psychological investigations which Aristotle thinks a useful preliminary to his own exposition of the character of mind. Two mental properties he finds have been especially attributed to the soul: motive and active powers on the one hand, perceptive and cognitive powers on the other. (i) The active and motive powers have been emphasized by Democritus and Leucippus (§§ 3, 12), certain particular Pythagoreans (§ 4), Anaxagoras whose views however attach particularly to Reason (§ 5), Thales (§ 14), and Alcmaeon (§ 17). (ii) The cognitive side of mind is prominent in Empedocles (§ 6), Plato (§ 7), Xenocrates (§ 8)—all of whom hold that knowledge involves correspondence between the subject knowing and the object known and therefore resolve mind into the Elements whether one or many which their philosophical analysis recognises as generally entering into things. A third class of thinkers unite the cognitive with the motive powers—a phase of thought to be seen in Anaxagoras (§ 13), Diogenes (§ 15), Heraclitus (§ 16).

§ 1. 403^b 23. ὅπως τὰ μέν καλῶς εἰρημένα λάβωμεν] For the motive of Aristotle's *résumé* of past opinions on a subject, cp. *De Coelo*, I. 10, ἅμα δὲ καὶ μᾶλλον ἂν εἴη πιστὰ τὰ μέλλοντα λεχθήσεσθαι προαηκούσι τὰ τῶν ἀμφισβητούντων λόγων δικαιώματα· τὸ γὰρ ἐρήμην καταδικάζεσθαι δοκεῖν ἥττον ἂν ἡμῖν ὑπάρχοι· καὶ γὰρ δεῖ διαιτητὰς ἀλλ' οὐκ ἀντιδίκους εἶναι τοὺς μέλλοντας τᾷληθὲς κρίνειν ἱκανῶς: and see also *De Respir.* 470^b 11 and *Metaph.* B. 1, 995^a 27, ἔστι δὲ τοῖς εὐπορῆσαι βουλομένοις προὔργου τὸ διαπορῆσαι καλῶς. Trendelenburg and most of the editors place in 21 the comma before *προελθόντας*: Torstrik places it *after* *προελθόντας* and construes it with *εὐπορεῖν* δεῖ.

§ 3. 404^a 1. ἀπείρων γὰρ ὄντων σχημάτων] Cp. *De Coelo*, III. 4, 303^a 13, ποῖον δὲ καὶ τί ἐκάστου τὸ σχῆμα τῶν στοιχείων οὐδὲν ἐπιδιώρισαν ἀλλὰ μόνον τῷ πυρὶ τὴν σφαῖραν ἀπέδωκαν· αἶρα δὲ καὶ τὰ ἄλλα μεγέθει καὶ μικρότητι διεῖλον, ὡς οὖσαν αὐτῶν τὴν φύσιν οἶον πανσπερμίαν πάντων τῶν στοιχείων: also III. 8, 306^b 32, and *De Gen.* 1. 8.

The psychology of Democritus lay in a particular application of his general atomic theory. That theory reduced all existence to a void (*κενόν*) on the one hand, a fixed space (*πλήρες*) on the other, this last consisting of an infinite multitude of atoms or particles qualitatively similar. To such

atoms everything was finally reducible : and the different shapes assumed by objects depended simply on the figure, order, and relative position of those infinitely small and homogeneous particles. (Cp. *Meta.* A. 4, καὶ καθάπερ οἱ ἐν ποιούντες τὴν ὑποκειμένην οὐσίαν τῶν πάθουσιν αὐτῆς γεννώσι, τὸ μακρόν καὶ τὸ πυκνὸν ἀρχὰς τιθέμενοι τῶν παθημάτων, τὸν αὐτὸν τρόπον καὶ οὗτοι τὰς διαφορὰς αἰτίας τῶν ἄλλων εἶναι φασιν, ταύτας μέντοι τρεῖς εἶναι λέγουσι, σχῆμά τε καὶ τάξιν καὶ θέσιν· διαφέρειν γάρ φασι τὸ ὄν ῥυσμῶ καὶ διαθιγῇ καὶ τροπῇ μόνον. τούτων δὲ ὁ μὲν ῥυσμός σχῆμά ἐστιν, ἡ δὲ διαθιγὴ τάξις, ἡ δὲ τροπὴ θέσις. This Aristotle illustrates by the letters of the alphabet, διαφέρει τὸ μὲν Α τοῦ Ν σχήματι, τὸ δὲ ΑΝ τοῦ ΝΑ τάξει, τὸ δὲ Ζ τοῦ Ν θέσει.) The soul therefore had to be conceived from this same atomic standpoint : and Democritus found an explanation in assimilating soul to heat. Now heat, like every other sensible quality, could be expressed in terms of an atomic configuration, and such a configuration Democritus found in spherical particles, not unlike the motes we see in streaming sunlight. For these, he argued, have most of the penetrating power and motive force which distinguishes the soul. And the life of man meant just a continuous movement of these 'fiery particles'—a continuous ingress and egress of these spherical-shaped atoms. The outward environment as Democritus conceived, was continually contracting the body and expelling the particles which thus constituted the soul, and simultaneously inspiration introduced a new relay of similar particles, and life continued to subsist. Life in fact was to Democritus just coextensive with the power which the body had to replace new spherical atoms in lieu of those which the weight of the outer atmosphere had squeezed out of the body. In qua, adds Trendelenburg, etsi rudi sententia id inest veri quod individuum quoad vivit sua vi pugnam quandam sustinet.

404^a 7. ῥυσμός] ῥυσμός λέξις ἐστὶν Ἀβδηρική, σημαίνει δὲ τὸ σχῆμα. Philoponus, 7^b.

§ 4. 404^a 20. ἐπὶ ταῦτό δὲ φέρονται] αἰνίττεται εἰς Πλάτωνα καὶ Ζενοκράτην καὶ Ἀλκμαίωνα. Philop. Cp. particularly Plato, *Phaedrus*, 245 C, μὴ ἄλλο τι εἶναι τὸ αὐτὸ ἑαυτὸ κινεῖν ἢ ψυχὴν, and *Lawes*, 895 A, where ψυχὴ is defined as τὴν δυναμένην αὐτὴν κινεῖν κίνησιν.

§ 5. 404^a 29. διὸ καλῶς ποιῆσαι τὸν Ὅμηρον] Cp. *Meta.* Γ. 5, 1009^b 28, φασὶ δὲ καὶ τὸν Ὅμηρον ταύτην ἔχοντα φαίνεσθαι τὴν δόξαν ὅτι ἐποίησε τὸν Ἑκτορα ὡς ἐξέστη ὑπὸ τῆς πληγῆς κεῖσθαι ἀλλοφρονέοντα. Aristotle would seem to quote from memory—at least no passage exactly corresponding to his reference can be found, though somewhat similar expressions are to be found in *Iliad*, XXIII. 698, and XXII. 337. Cp. Theophrastus, *De Sensu*, § 58, περὶ δὲ τοῦ φρονεῖν ἐπὶ τοσούτων εἴρηκεν ὅτι γίνεται συμμετρῶς ἐχούσης τῆς ψυχῆς μετὰ τὴν κίνησιν· ἐὰν δὲ περιθερμός τις ἢ περιψυχρός γένηται μεταλλάττειν φησί. διότι καὶ τοὺς παλαιοὺς καλῶς τοῦθ' ὑπολαβεῖν ὅτι ἐστὶν ἀλλοφρονεῖν.

404^b 1. πολλὰ μὲν γὰρ τὸ αἷτιον τοῦ καλῶς καὶ ὀρθῶς τὸν νοῦν λέγει] Cp. *Metaφ.* A. 3, where Aristotle says of Anaxagoras νοῦν δὴ τις εἰπὼν εἶναι καθάπερ ἐν τοῖς ζῴοις καὶ ἐν τῇ φύσει τὸν αἷτιον τοῦ κόσμου καὶ τῆς τάξεως πάσης οἷον νήφων ἐφάνη παρ' εἰκῇ λέγοντας τοὺς πρότερον—and the words which

Diogenes Laertius, II. 6, quotes from the beginning of his treatise: *πάντα χρήματα ἦν ὁμοῦ· εἴτα νοῦς ἐλθὼν αὐτὰ διεκόσμησε*. Anaxagoras' conception of *νοῦς*—a conception which, as will be seen in the third book, coloured to no slight extent the Aristotelian view of a creative reason—was apparently not unlike that of the Alexandrian *λόγος*. So at least it would seem necessary to interpret the lengthy passage which Simplicius quotes in his commentary on Aristotle's *Physics* (f. 33) as occurring *ἐν τῷ πρώτῳ τῶν φυσικῶν* [partly extracted in Preller, *Histor. Phil.* § 123 (5th ed.), § 53 (4th ed.)] and particularly the words *καὶ τὰ συμμισγόμενά τε καὶ ἀποκρινόμενα καὶ διακρινόμενα πάντα ἔγνω νοῦς· καὶ ὅποια ἔμελλεν ἔσεσθαι καὶ ὅποια ἦν καὶ ὅσα νῦν ἐστὶ, καὶ ὅποια ἔσται πάντα διεκόσμησε νοῦς*. With Anaxagoras' ascription of *νοῦς* to all animate and living objects, cp. the spurious *περὶ φυτῶν*, 815^b 11, *ὁ δὲ Ἀναξάγορας καὶ ὁ Δημόκριτος καὶ ὁ Ἐμπεδόκλης καὶ νοῦν καὶ γνῶσιν εἶπον ἔχειν τὰ φυτά*.

§ 7. 404^b 18. *ὁμοίως δὲ καὶ ἐν τοῖς περὶ φιλοσοφίας λεγομένοις διωρίσθη, αὐτὸ μὲν τὸ ζῶον, κ.τ.λ.*] I have ventured not without some misgivings to interpret this passage in a sense somewhat different to that in which it is generally understood. Ordinarily the *αὐτὸ τὸ ζῶον* with which the passage opens is supposed to be the intelligible world, the universe as an object of thought, as conceived in its essential permanent characteristics. And this sense it must be allowed is not only that given by the older commentators—Simplicius and Themistius, but is also in harmony with the use of the expression in the *Timaeus* itself. (*Timaeus*, 30 B, οὕτως οὖν δὴ κατὰ λόγον τὸν εἰκότα δεῖ λέγειν τόνδε τὸν κόσμον ζῶον ἐμψυχον ἔννουν τε τῇ ἀληθείᾳ διὰ τὴν τοῦ θεοῦ γενέσθαι πρόνοιαν.) The passage is then interpreted to mean that the parallelism between the object and the subject is so complete that while on the one hand the world as thought, the universe conceived of in its essential relations—the *κόσμος νοητός* as the commentators explain *αὐτὸ τὸ ζῶον*—may be resolved into the ideas of unity, of length, of breadth, and depth; the mind on the other hand may also be resolved into four faculties—reason, understanding, opinion, and sense. Thus then there are four primary characteristics on the part of the object, four primary on the part of the subject. But further, those four are exactly fitted to one another: the action of reason being essentially unity, that of understanding essentially duality: and just in virtue of such correspondence between the ideal qualities of mind and the ideal qualities of things is knowledge possible.

The chief objection to this interpretation is the difficulty in explaining τὰ δ' ἄλλα ὁμοιότηπως. If the *αὐτὸ τὸ ζῶον* be the universe as an object of thought, the ἄλλα must be also universal ideas, but it is difficult to see what they can be or how in fact, outside the universe, any idea can be left to be explained. Simplicius however, it should be noted, by τὰ ἄλλα understands τὰ ἐπιστητά, τὰ δοξαστά and τὰ αἰσθητά, the *αὐτὸ τὸ ζῶον* itself being equivalent to *νοητά*: while Philoponus less symmetrically and altogether less satisfactorily explains them as τὰ νοητά, τὰ φυσικά and τὰ αἰσθητά.

It seems better in the face of such divergencies of view to treat τὰ δ'

ἄλλα not as an addition, but an antithesis to the αὐτὸ ζῶον which has preceded. The meaning will then be that while the subject knowing—the animal as an intelligible and cognitive factor—the ego—is made up of the four mathematical elements of ideal unity, primary length, breadth and depth: on the other hand the non-ego, the objects which are not subjects, exhibit similar relations (τὰ δ' ἄλλα ὁμοιοτρόπως). Thus the first statement is an emphatic assertion of the correspondence or parallelism between the animate mind and inanimate things: between the essential subject given in the αὐτὸ τὸ ζῶον and the essential object expressed in τὰ δ' ἄλλα: the one is the microcosm of that of which the other is the macrocosm. But the writer goes on to elaborate this correspondence into further details. The proof that the animal in its essential nature as a pure cognitive agent is the result of mathematical forms is to be found in considering the four phases of knowledge with which it is endowed (ἔτι δὲ καὶ ἄλλως). These are reason, understanding (ἐπιστήμη), opinion, and sense-perception. These it has to be shewn are parallel to the essential qualities of objects. But what are the essential qualities of objects? The answer is *numbers*—οἱ μὲν γὰρ ἀριθμοὶ τὰ εἶδη αὐτὰ (αὐτὰ is omitted by SX) καὶ ἀρχαὶ ἐλέγοντο—it is numerical relations which determine the constitutive types and principles of things; and these numerical relations, we are further told, are formed from the most fundamental conceptions of which numbers admit—εἰσὶ δ' ἐκ τῶν στοιχείων.

We arrive in this way at the following results: Objects—things as objects of intellect—reduce themselves to the abstract numerical relations of unity, duality, triadity and quadreity: Subjects, minds as knowing, present us with four phases of knowledge—reason, understanding, opinion, sense-perception. Can we shew that these are really parallel to one another and so substantiate the assertion of I. 20, which maintained that the essential animal or mind consisted of the same four arithmetical conceptions (except that what was spoken of in the previous passage as μήκος is called duality in the second, and the πλάτος and βάθος of the first passage become the ἐπίπεδον and στερεόν of the second)? The proof of this correspondence between the cognitive faculties of the subject and the fundamental numerical relations of the object is given in lines 22 and 23. Reason, it is there pointed out, is the parallel in mind to unity in things, because, we may suppose, it comprehends the mass of objects under one idea and forms a concept or *Begriff*; the discursive understanding is like duality, like abstract length (μοναχῶς γὰρ ἐφ' ἑν) because, i.e. it starts from a premiss and by one direct line of deductive argument or ratiocination it arrives at one conclusion: opinion (δόξα) is not thus decided and definite in its conclusions, rather it is like a triangle in which there is only one single starting point, the apex, but a pair of possible conclusions in the two sides diverging from the apex: and lastly sense is no longer like understanding or opinion, parallel to simple length or abstract breadth, but having to take account of all the concrete qualities of objects it becomes rather quadruple and

cubical and so resembles solidity and breadth. And thus Themistius sums up the Platonic standpoint: τὴν οὖν ψυχὴν συγκεκλιμένην ἐκ τῶν αὐτῶν ἀρχῶν ἐξ ὧν περὶ ὁ εἰδητικὸς ἀριθμὸς...εἰκότως γινώσκειν τὰ ὄντα.

Practically then Plato's conclusion, if we allow the "poetical metaphors" on which it is built, is made out. The same conceptions as constitute the εἶδη of things constitute also the εἶδη of the cognitive mind: it is, in the words with which he himself concludes (25—27), by reason, by understanding, by opinion and by sense that we know and discriminate things around us: and the numbers to which these faculties of knowledge correspond are also the εἶδη which constitute real things.

The general sense of the passage is so far not difficult to construct, but a number of special difficulties remain. The theory in question is said to be in the first place expounded in the *Timaeus*: and the *Timaeus* itself expands the short account which Aristotle gives. God, it is said (p. 34), out of the unchangeable on the one hand, the divisible and corporeal on the other, made a third sort of intermediate essence partaking of the same and also of the other or diverse, which compound in like manner he placed in a mean between the indivisible and the divisible or corporeal. γενέσει καὶ ἀρετῇ προτέραν καὶ πρεσβυτέραν ψυχὴν σώματος ὡς δεσπότιν καὶ ἄρξουσιν ἀρξομένων ξυνεστήσατο (ὁ θεὸς) ἐκ τῶνδ' τε καὶ τοιῶδε τρόπῳ. τῆς ἀμερίστου καὶ αἰετῆς κατὰ ταῦτα ἐχούσης οὐσίας καὶ τῆς οὐ περὶ τὰ σώματα γιγνομένης μεριστῆς τρίτον ἐξ ἀμφοῖν ἐν μέσῳ ξυνεκράσατο οὐσίας εἶδος, τῆς τε ταυτοῦ φύσεως αὐτῆς καὶ τῆς θατέρου, καὶ κατὰ ταῦτα ξυνέστησεν ἐν μέσῳ τοῦ τε ἀμεροῦς αὐτῶν καὶ τοῦ κατὰ τὰ σώματα μεριστοῦ· καὶ τρία λαβὼν αὐτὰ ὄντα συνεκράσατο εἰς μίαν παντὸς ἰδέαν, τὴν θατέρου φύσιν δύσμικτον οὖσαν εἰς ταῦτ' ὅντα ξυναρμόττων βίᾳ. But over and above the *Timaeus*, Aristotle refers to certain λεγόμενα περὶ φιλοσοφίας, as containing the doctrines under consideration.

404^b 18. ὁμοίως δὲ καὶ ἐν τοῖς περὶ φιλοσοφίας λεγομένοις] Simplicius explains the writings here referred to as τὰ περὶ τοῦ ἀγαθοῦ αὐτῷ ἐκ τῆς Πλάτωνος ἀναγεγραμμένα συνουσίας· ἐν οἷς ἱστορεῖ τὰς τε Πυθαγορείους καὶ Πλατωνικὰς περὶ τῶν ὄντων δόξας: and similarly Philoponus—τὰ περὶ τὰγαθοῦ ἐπιγραφόμενα περὶ φιλοσοφίας λέγει. ἐν ἐκείνοις δὲ τὰς ἀγράφους συνουσίας τοῦ Πλάτωνος ἱστορεῖ ὁ Ἀριστοτέλης. Titze (*De Serie*) accordingly identifies the works in question with the *Metaphysics*, especially Book A. But to this it is a fatal objection that nowhere in the *Metaphysics* does Aristotle discuss the points here referred to. Bernays would seem at one time to have identified the work in question with Aristotle's dialogue περὶ φιλοσοφίας. Heitz however proves pretty conclusively (p. 180, 211) that the reference must be to Plato's *own* lectures. And Bernays himself says (*Dial.*, p. 170) it seems now generally recognised that the words indicate no particular Aristotelian writing, but merely set the oral discourses of Plato (die mündlichen Vorträge Platons) side by side with his previously mentioned *Timaeus*. Thus the reference will be to the same source of opinions as the ἄγραφα δόγματα of the *Physics* IV. 2, 209^b 15, where Aristotle, after saying that in the *Timaeus* Plato identifies ὕλη and χώρα because the μεταληπτικὸν and χώρα are one

and the same, adds ἄλλον δὲ τρόπον ἐκεῖ τε λέγων τὸ μεταληπτικὸν καὶ ἐν τοῖς λεγομένοις ἀγράφοις δόγμασιν ὁμῶς τὸν τόπον καὶ τὴν χώραν τὸ αὐτὸ ἀπεφώνηται. Bonitz (*Ind. Aris.* 98^b 59, quoted in Trend., p. 182) would seem to have misunderstood Bernays' position.

§ 8. 404^b 29. ἀποφηνάμενοι τὴν ψυχὴν ἀριθμὸν κινουμένην ἐαυτῶν] Simplicius and Philoponus refer the theory in question to Xenocrates. So Simplicius : Ξενοκράτους ὁ τῆς ψυχῆς οὗτος λόγος βουλομένου τὴν μεσότητα αὐτῆς τῶν τε εἰδῶν καὶ τῶν εἰδοποιουμένων ἅμα καὶ τὸ ἴδιον αὐτῆς ἐνδείξασθαι. But Plutarch gives us more insight into the position of Xenocrates. As a mere number he says the soul was not yet formed because it was without the power of moving and of being moved : τοῦ δὲ ταύτου καὶ τοῦ ἐτέρου συμμιγνέτων, ὧν τὸ μὲν ἐστὶ κινήσεως ἀρχὴ καὶ μεταβολῆς τὸ δὲ μονῆς, ψυχὴν γεγονέναι, μηδὲν ἦττον τοῦ ἰσθάναι καὶ ἴστασθαι δύναμιν ἢ τοῦ κινεῖσθαι καὶ κινεῖν οὔσαν.

§ 10. 405^a 4. τὸ τε γὰρ κινητικὸν τὴν φύσιν τῶν πρώτων ὑπελήφασιν] Bonitz (*Hermes*, VII. 430) points out that this sentence if translated : 'They posit faculty of movement (*Bewegungskraft*) as one of the principles,' scarcely connects itself with what goes before. He therefore supplies τὴν ψυχὴν as object to ὑπελήφασιν and translates : *Dem entsprechend definiren sie die Seele. Sie betrachten nämlich als Seele dasjenige unter den Principien welches seiner Natur nach bewegende Kraft besitzt*, &c. But the connection seems to be that their definitions of soul are just as divergent as their enumeration of first principles because soul as motive belongs to the class of first principles (τῶν πρώτων). And the natural translation would therefore seem to be that a substance with a natural faculty of movement was not unreasonably supposed to belong to the primary elements of existence. Cp. Themistius, p. 23, εὐλογον γὰρ καὶ λίαν πιθανὸν τὴν κινητικωτάτην αἰτίαν ἐν ταῖς πρώταις ἀρχαῖς κατατάττειν.

§ 13. 405^a 14. χρῆται δ' ἀμφοῖν ὡς μιᾷ φύσει] Cp. Plato, *Cratyl.* 400 A, καὶ τὴν τῶν ἄλλων ἀπάντων φύσιν οὐ πιστεύεις Ἀναξαγόρα νοῦν καὶ ψυχὴν εἶναι τὴν διακοσμοῦσαν καὶ ἔχουσαν.

§ 14. 405^a 19. ἔοικε δὲ καὶ Θαλῆς] Cp. Diog. Laert. I. § 24, Ἀριστοτέλης δὲ καὶ Ἰππίας φασὶν αὐτὸν καὶ τοῖς ἀψύχοις μεταδιδοῖν ψυχάς, τεκμαιρόμενον ἐκ τῆς λίθου τῆς μαγνήτιδος καὶ τοῦ ἡλέκτρον.

§ 15. 405^a 21. Διογένης δ' ὥσπερ καὶ ἕτεροί τινες, ἀέρα] For a further account of the psychological ideas of Diogenes, see Theophrastus *De Sensu*, §§ 39—48. His explanation of reminiscence and other mental states through air Theophrastus characterizes as in many respects εὐηθές : his theory in fact would lead us to conclude that birds as living highest and most in the air would be wisest of all. Diogenes then, Theophrastus concludes, ἅπαντα προθυμούμενος ἀνάγειν εἰς τὴν ἀρχὴν πολλὰ διαμαρτάνει τῶν εὐλόγων.

§ 16. 405^a 25. καὶ Ἡράκλειτος δὲ τὴν ἀρχὴν εἶναι φησι ψυχὴν, εἶπερ τὴν ἀναθυμίασιν] Philoponus comments as follows : εἶρηται πολλάκις ὅτι ἀρχὴν ἔλεγεν εἶναι τῶν ὄντων οὗτος τὸ πῦρ, πῦρ δὲ οὐ τὴν φλόγα, ὡς γὰρ Ἀριστοτέλης φησὶν, ἡ φλόξ ὑπερβολὴ ἐστὶ πυρός. ἀλλὰ πῦρ ἔλεγε τὴν ξηρὰν ἀναθυμίασιν, ἐκ ταύτης οὖν εἶναι καὶ τὴν ψυχὴν ὡς κινητοῦ καὶ λεπτομερεστάτης. But, as Trendelenburg points out, it

is unnecessary to give this sense of dry exhalation to the 'fire' of Heraclitus. Fire being the principle by which Heraclitus explained all existence, we need merely suppose that this fire rising upwards in a fiery vapour gave rise eventually to animal life. And if this ἀναθυμίασις represents the upward way (ὁδὸς ἄνω) we can understand how αἷη ψυχὴ σοφωτάτη (Bywater, *Frag.* 74)—how the driest and fieriest soul is the wisest.

405^a 27. τὸ δὲ κινούμενον] As this gives the ground of Heraclitus' doctrine τὸ γὰρ would seem the conjunction required, but the MSS. offer no variation. Heraclitus' belief in the constant flux and change of phenomena is almost proverbial in Greek philosophy. It attains its most definite form in the saying ποταμοῖσι τοῖσι αὐτοῖσι ἐμβαίνομέν τε καὶ οὐκ ἐμβαίνομεν, εἰμέν τε καὶ οὐκ εἰμέν: into the same river we descend and we do not descend, we are and we are not (Bywater, 81). And the doctrine acquires special importance when we remember that it 'awoke' Plato to the insufficiency of sense in gaining knowledge of the world. See Aris. *Meta.* A. 6.

§ 17. 405^a 29. Alcmaeon. Cp. Diog. Laert. VIII. 5, ἔφη δὲ καὶ (Ἀλκμαίων) τὴν ψυχὴν ἀθάνατον καὶ κινεῖσθαι αὐτὴν συνεχές ὡς τὸν ἥλιον.

§ 18. 405^b 1. τῶν δὲ φορτικωτέρων...καθάπερ Ἴππων] A similar depreciation of Hippo (a contemporary with Pericles) is to be found in *Meta.* A. 3, 984^a 3, Ἴππων γὰρ οὐκ ἂν τις ἀξιώσειε θεῖναι μετὰ τούτων διὰ τὴν εὐτέλειαν αὐτοῦ τῆς διανοίας.

§ 19. 405^b 5. αἷμα, καθάπερ Κριτίας] Philoponus quotes the hexameter, αἷμα γὰρ ἀνθρώποις περικάρδιόν ἐστι νόημα as used by Critias to express his views. The thinker in question was most probably the Critias who was for some time a disciple of Socrates and became one of the 'Thirty Tyrants.'

405^b 9. πλὴν εἴ τις αὐτὴν εἴρηκεν ἐκ πάντων εἶναι] Philoponus refers to Empedocles as the thinker who regarded soul as resulting from a combination of all the elements.

§ 20. 405^b 14. πλὴν ἐνός] The exception is explained by the Ἀναξάγορας δὲ μόνος of l. 19.

§ 22. 405^b 21. τοιοῦτος δ' ὧν πῶς γνωριεῖ] The question here raised—how reason if it have nothing in common with other objects is to know them—is started again in Bk. III. c. 4, where it is shewn that, if the object of thought be immaterial, no difficulty arises, since thought and the object of thought are identical: and that in material objects the conceptions of reason while not actually present are yet so potentially, and so give that community between thought and its objects which is required to make knowledge possible.

§ 23. 405^b 23. ὅσοι δ' ἐναντιώσεις] Empedocles would be an illustration: just as Hippo and Heraclitus would be of those who resolve mind into θάτερον τῶν ἐναντίων.

405^b 27. διὰ τοῦτο καὶ τὸ ζῆν ὠνόμασται] The etymology referred to is of course that which connects ζέω with ζέω to seethe and foam.

405^b 28. οἱ δὲ τὸ ψυχρόν διὰ τὴν ἀναπνοὴν καὶ τὴν κατάψυξιν] This derivation of ψυχὴ from ψυχρός on account of the refrigeration in respiration is given us in the *Cratylus* of Plato, p. 399 E, οἶμαι τι τοιοῦτον νοεῖν τοὺς τὴν

ψυχὴν ὀνομάσαντας, ὡς τοῦτο ἄρα, ὅταν παρῇ τῷ σώματι, αἰτίον ἐστὶ τοῦ ζῆν αὐτῷ, τὴν τοῦ ἀναπνεῖν δύναμιν παρέχον καὶ ἀναψύχον. ἅμα δὲ ἐκλείποντος τοῦ ἀναψύχοντος τὸ σῶμα ἀπόλλυται τε καὶ τελευτᾷ· ὅθεν δὴ μοι δοκοῦσιν αὐτὸ ψυχὴν καλεῖσαι.

CHAPTER III.

This chapter is devoted to a refutation of the view that movement is a characteristic of the soul and (in close connection with this) to a criticism of the views expounded in the *Timaeus* that circular movement is an attribute of the soul. The conclusion that movement is not essentially (κατ' οὐσίαν) and of itself an attribute of the soul is supported by the facts that (a) on such a hypothesis place or space would be a property of the soul (§ 3), (β) that if the soul be moved by nature it must also admit of being moved by force (§ 4), (γ) its different movements would involve divergent or contrary elements to enter into its structure, (δ) that if mind were to follow the movement of the body it would follow that it might leave the body and again return to it, a supposition leading to the absurdity of resurrection (§ 6). The conception on the other hand of merely incidental movement from outside is at variance with the original conception of essential movement (§ 7) and would imply that the soul abandoned its essential substance, while the atomic theory of mental movement of the body put forward by Democritus is palpably absurd and gives no explanation of the equally important condition of rest (§ 9). The doctrine on the other hand propounded in the *Timaeus* is open to the objections of regarding mind as a quantity (§ 12), and forgets that reasoning, while continuous, is so after the manner of number rather than after that of a quantity: besides, its apprehension of things whether ascribed to it as a whole or in its parts raises serious difficulties (§ 14). The description further of the process of thought as circular movement involves, since this movement is eternal, that the same thing should be repeatedly thought, fails to observe that thought is often more a state of rest and fixing (ἡρέμησις) than movement (§ 17), places an unnatural restraint upon the soul (§ 18) and inconsistently with the rest of the Platonic philosophy makes soul the slave of body (§ 19). Of this and like theories of mind Aristotle concludes by remarking it is a common defect that they insert mind in body without any regard to the appropriateness of the one to the other.

The fervour with which Aristotle criticizes the movement theory of the soul is explained when we find it originates with Plato. Thus in the *Phaedrus* Plato demonstrates the immortality of the soul by reference to its power of spontaneous movement: 245 E, εἰ δ' ἐστὶ τοῦτο οὕτως ἔχον, μὴ ἄλλο τι εἶναι τὸ αὐτὸ ἐαυτὸ κινεῖν ἢ ψυχὴν, ἐξ ἀνάγκης ἀγέννητόν τε καὶ ἀθάνατον ψυχὴν ἂν εἴη. And in the *Laws*, 895 E, he writes ὃ δὴ ψυχὴ τοῦνομα, τίς τούτου λόγος; ἔχομεν ἄλλον πλὴν τὸν νῦν δὴ ῥηθέντα, τὴν δυναμένην αὐτὴν αὐτὴν κινεῖν κίνησιν.

§ 2. 406^a 3. πρότερον εἴρηται] The reference is not, as Trendelenburg supposes, to *De An.* I. 2, 2, 403^b 29, but as Bonitz, after Themistius and Simplicius,

points out, to *Phys.* Θ. 5, particularly 257^b 20, *ἔτι οὐκ ἀνάγκη τὸ κινεῖν κινεῖσθαι εἰ μὴ ὑφ' αὐτοῦ*. οὐκ is omitted before ἀναγκαῖον in S, but this must be a mere clerical error.

§ 3. 406^a 12. *τεσσάρων δὲ κινήσεων οὐσῶν*] Cp. *Metaph.* Λ. 2, 1069^b 9, *εἰ δὲ αἱ μεταβολαὶ τέτταρες ἢ κατὰ τὸ τί ἢ κατὰ τὸ ποῖον ἢ ποσὸν ἢ ποῦ καὶ γένεσις μὲν ἢ ἀπλῇ καὶ φθορὰ ἢ κατὰ τόδε, αὐξήσις δὲ καὶ φθίσις ἢ κατὰ τὸ πόσον, ἀλλοιώσις δὲ ἢ κατὰ τὸ πάθος, φορὰ δὲ ἢ κατὰ τόπον, εἰς ἐναντιώσεις ἂν εἶεν τὰς καθ' ἕκαστον αἱ μεταβολαί*. But in *Meta.* K. 11, 1068^a 1, *γένεσις* and *φθορὰ* are excluded as not strictly forms of movement, and there accordingly remain the four forms which are enumerated here.

Aristotle's argument it should be observed is as follows: If motion be the characteristic attribute of the mind, then since the forms of natural movement—locomotion, attraction, decay, and growth—all involve place or space (τόπος) in which to act, the soul will also require space in which to perform its operations. But, Aristotle leaves the reader to add, spatial existence is no attribute of mind. Nor, he adds, can we get over this difficulty by insisting that space is an attribute of the movement of such abstractions as a white colour or a measure of length. That, says Aristotle, is true enough, but the movement in such cases is a mere incidental concomitant: whereas *ex hypothesi* movement is a natural and essential quality of soul.

§ 4. 406^a 22. *ἔτι δ' εἰ φύσει κινεῖται, κἂν βία κινηθῇ· κἂν εἰ βία, καὶ φύσει*] Aristotle's argument is that any movement which is caused by internal force can be also caused by external: so that if the soul be marked by natural internal movements it will also possess external forced movements—a conclusion which is practically a *reductio ad absurdum* of the main thesis—since such "forced movements" of the mind cannot well be realized or understood. The major premiss however of this argument is not free from difficulties. We may allow the former part of the assertion in the sense that what is moved from within, may be moved also from without, although it is rather in conflict to the assertion of 406^b 7, that what is moved essentially by itself should not be moved also by something else. But the latter half of the assertion—*κἂν εἰ βία καὶ φύσει*—strikes one as obviously false—those masses which should be driven by external force cannot *ipso facto* be moved by internal: and Themistius omits the passage in his paraphrase, commencing simply *τῷ δὲ ταῦτα συγχωροῦντι λόγῳ καὶ βιαίους συγχωρητέον τινὰς εἶναι κινήσεις τῆς ψυχῆς καὶ ἡρεμίας· εἰς ὃ γὰρ κινεῖται φύσει, ἐκ τούτου καὶ βία κινήσεται*. Yet in the *De Coel.* III. 2, 300^a 21, Aristotle after identifying βία with *παρὰ φύσιν* adds *ἀλλὰ μὴν εἰ παρὰ φύσιν ἐστὶ τις κίνησις ἀνάγκη εἶναι καὶ κατὰ φύσιν, παρ' ἣν αὐτῇ*. Thus it would seem that the passage must be accepted as it stands—as indeed it is recognised by all the older commentators: and we must understand Aristotle to mean that internal and external, natural and unnatural, are so far relative terms, that whatever movement is of the one kind may be also under appropriate conditions of the other.

§ 5. 406^a 27. *ἔτι δ' εἰ μὲν ἄνω κινήσεται, πῦρ ἔσται*] The force of this argument would seem to be that the ascription of *natural* movement to the soul (after

the βίαιοι κινήσεις have been given up) will involve its consisting of the most incongruous elements: since upward movement will necessitate its being made of fire, downward movement of earth, &c.

§ 6. 406^a 30. ἔτι δ' ἐπεὶ φαίνεται κινεῖσθαι τὸ σῶμα] Since the soul, Aristotle now argues, moves the body with its own movements, the body will also conversely (ἀντιστρέψασιν) move the soul with the movements of the body. The soul then it follows will alter like the body, *locally*, and may, even after it has passed out from it, enter into it again. And this result is capped by the crowning absurdity that if this were so the bodies of the dead might rise again to life. Trendelenburg failing to see that the words in 406^b 4 τοῦτο δ' ἐποῦ' ἂν τὸ ἀνίστασθαι τὰ τεθνεῶτα τῶν ζώων are such a *reductio ad absurdum* of the hypothesis in question, unnecessarily suspects them to be the work of a Christian commentator, "eagerly deducing the resurrection of the body from the words of Aristotle." But, as Bonitz says (*Hermes*, VII. 428), "this last clause just serves to prove the absurdity of the conclusions to which the disputed definition leads. Resurrection from the dead appears just about as great a reversal of the course of nature as would be an inversion of the orbit of the sun."

§ 7. 406^b 5. τὴν δὲ κατὰ συμβεβηκὸς κίνησιν κἂν ὑφ' ἑτέρου κινεῖτο] This section would seem to be intended as an answer to an objection raised against the previous reasoning of Aristotle. What you have said, the supposed objector replies, applies no doubt to motion if understood as an essential characteristic of the mind: but it is still possible that its movement should be produced by something outside it. And this, says Aristotle, is true enough; but then the movement in question is merely incidental, not essential. This however is to desert the original supposition: and the truth remains that that whose essential nature is to be moved by itself, loses this essential character when it is moved by something outside, just as absolute good loses its character of absolute if it be conceived as relative. Yet, the writer goes on, the most ordinary way in which we can conceive the mind moved is through αἰσθητά—which are external—and thus the movement of the mind cannot well be conceived as something essential and intrinsic.

§ 8. 406^b 11. ἀλλὰ μὴν καὶ εἰ κινεῖ γε αὐτὴ αὐτήν, καὶ αὐτὴ κινεῖτ' αὖν] The words would seem to mean that the supposed objector gives up his view of incidental movement at the hands of something else and reasserts that the mind moves itself. But, says Aristotle, if this be so, it will also *be* moved in itself (the passive as Trend. points out is to be pressed). Now all movement is a removal or departure on the part of the object moved—an ἔκστασις or ceasing to be itself. Thus then if the movement of the soul be not merely incidental (and this view the supposed interlocutor has given up) it follows that the soul as moved will start from and desert its essential nature. But this is just the reverse of the fundamental hypothesis (ἀλλ' ἔστιν ἡ κίνησις) which was that movement was of the essence of the soul, whereas now we find that the supposition of spontaneous essential movement on the part of mind involves the separation from the essence. Essential movement is in short a

contradiction in terms. To take, as Torstrik does, ἀλλ' ἔστιν ἡ κίνησις κ.τ.λ. simply as a continuation of εἰ μὴ κατὰ συμβεβ. is to miss the opposition between the hypothesis and its results. But Trendelenburg, it should be noted, similarly takes the phrase as continuing the hypothesis.

406^b 12. καὶ αὐτὴ κινοῖτ' αὖ] Trendelenburg conjectures καὶ αὐτὴ κινοῖτ' ἂν οὐσία, on the ground that the consequent as it stands does nothing but repeat the antecedent. Torstrik thinks that καθ' αὐτήν in δ 15 is a pleonasm incorporated in the text through some marginal interpretation : but it hardly seems so superfluous as he imagines.

§ 9. 406^b 17. Δημόκριτος παραπλησίως λέγων Φιλίππῳ] The force of Aristotle's comparison between the psychological theory of Democritus and the Aphrodite of Daedalus is, of course, that both give an external mechanical explanation of the phenomena in question : both making the movement proceed from an external force rather than from an inward principle. Concerning Philippus, son of Aristophanes, see Meineke, p. 9. Themistius' commentary is worth quoting : καίτοι γε ἐναργές λίαν ὅτι κινεῖται τὸ ζῷον οὐ προκινηθείσης κατὰ τὸν ἐνδοθεν τῆς ψυχῆς, ἀλλὰ προελομένης μόνον καὶ κινήσεως εὐθὺς ὑπηρετεῖται τὸ σῶμα.

§ 11. 406^b 25. τὸν αὐτὸν δὲ τρόπον καὶ ὁ Τίμαιος φυσιολογεῖ] The reference is undoubtedly not to Timaeus the Pythagorean, but to the Dialogue of Plato so entitled. See *Timaeus*, p. 36 A. The work is referred to in similar terms in Aristotle's *De Sensu*, c. 2, ὥσπερ ὁ Τίμαιος λέγει, where just before we have καὶ ἐν τῷ Τιμαίῳ γέγραπται (see Trendelenburg, *Platonis de Ideis Doctrina*, p. 18). The main doctrines of the passage from the *Timaeus* are shortly summed up by Trendelenburg to the effect that : (1) body is moved by the movement of the soul : (2) the soul is composed of elements : (3) it is so divided as to contain the harmonic number in which all truth resides, and (4) the soul has the same movements as the heavens. The chief passage in the *Timaeus* bearing on the view under examination is contained in the following words from pp. 33, 34 :

σχῆμα δὲ ἔδωκεν αὐτῷ τὸ πρέπον καὶ τὸ συγγενές. τῷ δὲ τὰ πάντ' ἐν αὐτῷ ζῶα περιέχειν μέλλοντι ζῷῳ πρέπον ἂν εἴη σχῆμα τὸ περιειληφὸς ἐν αὐτῷ πάντα, ὅποσα σχήματα. διὸ καὶ σφαιροειδές, ἐκ μέσου πάντῃ πρὸς τὰς τελευτὰς ἴσον ἀπέχον, κυκλοτερές αὐτὸ ἐτορνεύσατο, πάντων τελεωτάτον ὁμοιοτάτον τε αὐτὸ ἑαυτῷ σχημάτων, νομίσας μυρίῳ κάλλιον ὁμοιον ἀνομοίου...κίνησιν ἀπένεμειν αὐτῷ τὴν τοῦ σώματος οἰκείαν, τῶν ἐπτά τὴν περὶ νοῦν καὶ φρόνησιν μάλιστα οὔσαν. διὸ δὴ κατὰ ταῦτα ἐν τῷ αὐτῷ καὶ ἐν ἑαυτῷ περιαγαγὼν αὐτὸ ἐποίησε κύκλῳ κινεῖσθαι στρεφόμενον...τὴν δὲ δὴ ψυχὴν οὐχ ὥς νῦν ὑστέραν ἐπιχειροῦμεν λέγειν, οὕτως ἐμυχανήσατο καὶ ὁ θεὸς νεωτέραν...ὁ δὲ καὶ γενέσει καὶ ἀρετῇ προτέραν καὶ πρεσβυτέραν ψυχὴν σώματος ὥς δεσπότην καὶ ἀρξουσαν ἀρξομένου, ξυνεστήσατο ἐκ τῶνδε τε καὶ τοιῷδε τρόπον. τῆς ἀμερίστου καὶ αἰεὶ κατὰ ταῦτα ἔχουσης οὐσίας καὶ τῆς αὖ περὶ τὰ σώματα γιγνομένης μεριστῆς τρίτον ἐξ ἀμφοῖν ἐν μέσῳ ξυνεκράσατο οὐσίας εἶδος τῆς τε ταυτοῦ φύσεως αὖ καὶ τῆς θατέρου καὶ κατὰ ταῦτα ξυνέστησεν ἐν μέσῳ τοῦ τε ἀμέρους αὐτῶν καὶ τοῦ κατὰ τὰ σώματα μερίστου, καὶ τρία λαβὼν αὐτὰ ὄντα συνεκράσατο εἰς μίαν πάντα ἰδέαν, τὴν θατέρου φύσιν δύσμικτον οὔσαν εἰς ταυτὸν

ξυναρμότων βίᾳ. The στοιχεῖα then out of which in *δ* 28 Aristotle says the soul is viewed by Plato as compounded would be the same and the dissimilar—τὸ αὐτὸ and τὸ ἕτερον.

406^b 31. εἰς κύκλον κατέκαμψεν] Cp. *Timaeus*, 36 C, ταύτην οὖν τὴν ξύστασιν πᾶσαν, διπλὴν κατὰ μήκος σχίσας μέσσην πρὸς μέσσην ἑκατέραν ἀλλήλαις οἷον X προσβαλὼν κατέκαμψεν εἰς κύκλον, ξυνάψας αὐταῖς τε καὶ ἀλλήλαις ἐν τῷ καταντικρὺ τῆς προσβολῆς, καὶ τῇ κατὰ ταῦτα καὶ ἐν ταυτῷ περιωγομένη κινήσει περίξ αὐτὰς ἔλαβε, καὶ τὸν μὲν ἔξω τὸν δ' ἐντὸς ἐποιεῖτο τῶν κύκλων. τὴν μὲν οὖν ἔξω φορᾶν ἐπεφήμισεν εἶναι τῆς ταύτου φύσεως, τὴν δ' ἐντὸς τῆς θατέρου.

§ 12. 407^a 3. τὴν γὰρ τοῦ παντὸς δῆλον ὅτι τοιαύτην εἶναι βούλεται οἷον ποτ' ἐστὶν ὁ καλούμενος νοῦς] So Trendelenburg appropriately quotes Philoponus as shewing that in Aristotle's view reason as finding itself in things, and so coming back to the point at which it started, might be represented as a circle—ἡ δὲ τῆς λογικῆς ψυχῆς κίνησις κύκλος τις εἶναι ἔοικεν ὅτι τε ἐνεργεῖ καὶ ἐφιστάνει καὶ αὐτὴ ἐαυτὴν γινώσκει· αὐτὴ περὶ αὐτὴν ζητοῦσά τε καὶ εὐρίσκουσα. For the reason, as Trendelenburg remarks, in thinking does not rest satisfied with the forms of sense, but seeks to discover their law and principle, and in so doing finds itself embodied in external objects.

§ 13. 407^a 6. τούτων γὰρ ἡ κίνησις οὐ κυκλοφορία] The action of sense and appetite cannot, as reason may (see note on 407^a 3) be described as that of a circle or revolution: rather the objects of sense strike upon the sense directly and unilinearly: and appetite as such presses straight on to the immediate objects of its gratification.

407^a 10. πῶς γὰρ δὴ καὶ νοήσει μέγεθος ὧν; πότερον καθόλου ἢ ὁφρὺν τῶν μορίων τῶν αὐτοῦ;] So Trend. emended the reading adopted by Bekker—μέγεθος ὧν ὁφρὺν τῶν μορίων τῶν αὐτοῦ. Torstrik in place of καθόλου would read καθ' ὅλον which both Simplicius and Philoponus use in their paraphrase: and he further inserts θιγῶν after καθ' ὅλον. But this addition seems unnecessary—that θιγάνων occurs in the expanded paraphrase of Themistius no way makes it particularly likely that it occurred in the contracted text of Aristotle. Susemihl would read ὁφρὺν μορίῳ τῶν αἰσθῶν; μορίῳ.

§ 14. 407^a 19. ἀναγκαῖον δὲ τὸν νοῦν εἶναι τὸν κύκλον τοῦτον] Here, as Trendelenburg remarks, emphasis must be laid on τοῦτον—a circle of this kind, i.e. expressed in matter. Cp. Philoponus: τὸ γὰρ τοῦτον δεικτικὸν τὸ αἰσθητὸν αὐτὸ σημαίνει· τοῦτο γάρ ἐστι τὸ δεικνύμενον.

§ 15. 407^a 22. οὐ ἡ τοιαύτη περιφορὰ νόησις] Torstrik would reject νόησις as an interpretation of περιφορὰ. The sentence following he would regard as interrogative, in accordance with Simplicius' and Philoponus' commentary of whom the former says ἐρωτᾷ οὖν τί ἀεὶ νοήσει, and the latter τί οὖν τοῦτό ἐστιν. He reads accordingly δὴ τί.

407^a 23. τῶν μὲν γὰρ πρακτικῶν νοήσεων ἔστι πέρατα] The force of this paragraph is that while a circle always returns back into itself and so never comes to a stop, thought on the contrary, whether it be practical or speculative is essentially bounded and determined. The practical reason is so because it always puts before itself an end or τέλος in which it rests, and the

speculative reason is so because such reason resolves itself into either definition or demonstration, and both these forms of reasoning are essentially definite. Definition is evidently so; and demonstration though in syllogism it may appear at times almost a circle in which the conclusion brings us back to the premisses, is still essentially a straightforward direct movement in which we advance from premiss to conclusion.

Such an account of the action of the mind refers, as Trend. points out, more to its external than its inward character. Externally the power of thought cannot perhaps be represented as a circle: but in its fundamental and essential character the process of cognition may be represented as a circle in which reason discovers that the world which at starting was opposed to it, is really only the objective aspect of that which it itself holds as subject, so that the νοῦς, and the νοητὸν become identical. Cp. *Metaph.* A. 7, 1072^b 20, αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μεταλήψιν τοῦ νοητοῦ. νοητὸς γὰρ γίγνεται θεγγάνων καὶ νοῶν, ὥστε ταῦτ' ἐν νοῦς καὶ νοητόν· τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς.

§ 17. 407^a 32. ἔτι δ' ἡ νόησις ἔοικεν ἡρεμήσει τινὶ καὶ ἐπιστάσει μᾶλλον ἢ κινήσει] Thought, Aristotle means, fixes objects and checks the flux of sense. Cp. *Post. Anal.* II. 19, p. 100^b 1, where Aristotle describing the way in which our knowledge gradually builds itself up out of the particulars of sense by finding and widening some permanent centre, says πάλιν δ' ἐν τοῦτοις ἴσεται ἕως ἂν τὰ ἀμερῇ στή καὶ τὰ καθόλου, οἷον τοιονδι ζῶν, ἕως ζῶν. Trendelenburg well compares Plato, *Phaedo*, 96 B, ἐκ δὲ μνήμης καὶ δόξης λαβούσης τὸ ἡρεμεῖν κατὰ ταῦτα γίγνεσθαι ἐπιστήμην. Cp. also *Physics*, VII. 3, 247^b 4, τῷ γὰρ ἡρεμήσαι καὶ στήναι τὴν διάνοιαν ἐπίστασθαι καὶ φρονεῖν λέγομεν, and *Problem.* XXX. 14, 956^b 35, ἡ ἐπιστήμη δοκεῖ εἶναι ὅτι τὴν ψυχὴν ἴστησιν.

§ 18. 407^a 34. ἀλλὰ μὴν οὐδὲ μακάριον] Cp. *De Coelo*, II. 1, 284^a 25, οὐδὲ γὰρ τῆς ψυχῆς οἷον τ' εἶναι τὴν τοιαύτην ζῶν ἄλυπον καὶ μακάριον...ἀλλ' ἀναγκαῖον Ἰξίωνος τινος μοῖραν κατέχειν αὐτὴν αἰδίων καὶ ἄτρυνον.

407^b 1. εἰ δ' ἐστὶν ἡ κίνησις αὐτῆς μὴ οὐσία, παρὰ φύσιν ἂν κινεῖτο] Torstrik thinks the words corrupt, and supposes Aristotle to have written ἢ οὐσία. This absence of the negative seems to some extent warranted by the paraphrase of Themistius, οἱ δὲ τὴν κίνησιν οὐσίαν αὐτοῦ ποιοῦντες, φύσιν αὐτοῦ ποιοῦσι τὴν λυμαινομένην ταῖς ἐνεργείαις. But the negative can I think be explained by viewing the argument as of that dialectical kind which is customary in Aristotle. Aristotle, that is, has said that this assignation of movement to the mind makes it unhappy and uneasy. But, he supposes some one to object, this movement need not be regarded as constituting its essence. Aristotle then replies in the words which we are considering, and asserts that if this movement be not the essential nature of the mind, we are landed in another difficulty, because this movement must then be regarded as unnatural: and therefore leading to greater 'unhappiness' than was the other supposition.

§ 19. 407^b 4. βέλτιον τῷ νῷ μὴ μετὰ σώματος εἶναι] Aristotle is here confuting Plato out of his own mouth. The *Phaedo* is full of passages which regard

body as the prison merely of the mind, and regard its deliverance from its fetters as an event devoutly to be wished for. And so far, the doctrine of the world-soul in the *Timæus* is, says Aristotle, inconsistent with the psychology of the *Phædo*.

With respect to Aristotle's whole criticism of Plato's conception of a world-soul, Zeller rightly remarks that Aristotle has strangely mistaken the mythical form in which Plato has expressed his views. Ueberweg (*Rhein. Mus.* IX. 56) holds with Aristotle that the soul is to Plato a mathematical magnitude in space, and that of its elements, the *ταῦτόν* signifies number, the *θάτερον* space which admits of all figures, and that this space is the principle of motion in secondary matter, and as such the irrational soul. But we really cannot take Plato's expressions in a literal sense: "anything filling space and yet not material can be," as Zeller says, "no more split up and bent into circles, than it can be mixed in a caldron" (*Timæus*, 41 D).

The real meaning of Plato's conception was, as Zeller remarks, to explain the connection between the idea on the one side, and the phenomenon on the other. Such an explanatory conception Plato found in mathematical proportions, which, so to speak, he localized in a world-soul. Just then as in the *Republic* it is through mathematics (*διάνοια* or *ἀριθμητική*) that the mind proceeds from sense to thought, so similarly the world-soul contains within itself the very proportions which are also the constituents of existence. This world-soul is in fact the means by which reason imparts itself to the corporeal—the indispensable intermediating principle between the universal idea and the existing particulars of sense. Hence the world-soul, as standing midway between the sensible and the ideal, participates in both. It is compounded of *οὐσία ἀμέριστος* and of *οὐσία μεριστή*—that is, it combines the non-sensible idea with the sensible phenomenon by uniting in itself the specific qualities of both. "It stands over against the unlimited multiplicity of phenomena as its ideal unity: against its lawless vicissitude as the permanent element which introduces into it fixed proportion and law" (Zeller, *Plato and older Academy*, English Trans. p. 346).

§ 22. 407^b 13. συμβαίνει καὶ τούτῳ τῷ λόγῳ καὶ τοῖς πλείστοις τῶν περὶ ψυχῆς] Under this would be included all theories of transmigration or *μετεμψύχωσις*.

§ 23. 407^b 24. ὥσπερ εἴ τις φαίη τὴν τεκτονικὴν εἰς αὐλοὺς ἐνδύεσθαι] Whatever be the *exact* meaning of this, the general sense evidently is that of an *incongruous connection*—a union of incombibles. Themistius brings this out still more glaringly by his paraphrase: ὥσπερ εἴ τις φαίη εἰς αὐλοὺς ἐνδύεσθαι τὴν ὑφαντικὴν ἢ τὴν χαλκευτικὴν εἰς κερκίδας. The criticism, as Trendelenburg remarks, already anticipates Aristotle's conception of the soul as an *ἐντελέχεια* of the body. This is brought out well in the commentary of Philoponus, who says: "Each of the parts is characterized not by the mere psychical activity nor by the mere corporeal combination, but by the two in union. Thus, e.g. the eye is not simply the organ consisting of such and such membranes, but of those membranes along with such and such a psychical capacity."

CHAPTER IV.

The consideration of the intimate relation between the soul and body (with which the third chapter closed) leads Aristotle to examine the theory which regards soul as a harmony. From this he somewhat irregularly proceeds (§ 9) to discuss the fitness of motion as an expression for describing the action of the mind and then finally in § 16 he examines the view which identifies mind with number.

§ 1. 407^b 28. πιθανή μὲν πολλοῖς] The expression is taken from the *Phaedo*, p. 88 D, as Philoponus reminds us: καὶ ὁ ἐν τῷ Φαίδωνι Σίμμιας φησὶν ὡς οὐδὲν οὕτως αὐτῷ περὶ ψυχῆς πιθανὸς φαίνεται λόγος ὥς ὁ λέγων αὐτὴν ἁρμονίαν.

407^b 29. λόγους δ' ὥσπερ εὐθύνας δεδωκῦα καὶ τοῖς ἐν κοινῷ γινόμενοις λόγοις] Bernays (*Dialoge*, p. 14) discusses this passage, and contends that λόγους διδόναι is not a Greek idiom, so that we should (with Torstrik) at least read λόγον διδόναι. But further even after this alteration has been made, he discovers difficulties in the expression. The forms λόγον διδόναι and εὐθύνας διδόναι are, he maintains, inconsistent with one another, the former being used of clearing one's self, the latter of being punished for an offence. He would therefore omit λόγους δ. But in that case ὥσπερ is left rather without anything to explain it: we should require to read εὐθύνας δ' ὥσπερ εἰπεῖν δεδωκῦα. It would seem then that λόγους must be retained, and the grammatical perversity of the plural may be explained as *attracted* (to use an old fashioned word) into the number of the following word. And surely εὐθύνη being a judicial examination in which a magistrate gave an account of his conduct may be applied equally to an enquiry which condemned, and an enquiry which acquitted. Themistius paraphrases: δεδωκῦα δὲ εὐθύνας καὶ ἐξητασμένη καὶ ἐν τοῖς κοινοῖς λόγοις καὶ ἐν τοῖς ἰδίοις. In consequence of this, Torstrik makes the suggestion that the original text must have contained the words καὶ ἐν ἰδίοις, but finally settles that καὶ before τοῖς λόγοις means *etiam*.

For the different interpretations that may be given of the ἐν κοινῷ γινόμενοι λόγοι see Bernays' exhaustive treatise on the dialogues of Aristotle. Bernays (perhaps rightly enough) identifies the λόγοι in question with what are otherwise called ἐξωτερικοί: but would seem to be mistaken in identifying such λόγοι with definite works of Aristotle. The ἐξωτερικοί λόγοι to which Aristotle refers are not invariably works of Aristotle himself. The phrase would rather appear to have covered all popular writings: and therefore though it includes Aristotle's dialogues, it is by no means necessarily confined to them. So Prantl takes the expressions in his notes on *De Coelo*, I. 9 (p. 284) and *Phys.* IV. 10 (p. 501): "ἐξωτερικοὶ λόγοι sind also ungefähr *Raisonnements* welche ohne streng systematischen Zweck über irgend einen Gegenstand von gebildeten Leuten überhaupt ausgesprochen werden." Similarly Torstrik refers the phrase to the discussions of men of culture (eas disputationes quales homines elegantiores instituere solent). And this interpretation would seem necessary both for *Eth. Nic.* I. 13 and *Metaphys.* 1076^a 28. In

the former passage Aristotle accepts from the ἐξ. λόγοι a division of the mental faculties into rational and irrational : but in *De An.* III. 9, 432^a 30 notes the inability of ranking sense under either the one or other of the two faculties. Still more difficult is it to regard the ἐξ. λόγ. as works of Aristotle himself in the second passage. Aristotle must have written a surprising number of dialogues on the ideal theory to be able to say that the subject τεθρύλληται : and must secondly have formed a low estimate of his own capacities to apply a half contemptuous word to his own discussions. If the reference be to the dialogues of Aristotle, the present reference would be to the dialogue *Εὐδημος ἢ περὶ ψυχῆς*—about which see the Appendix. Heitz, *Verlor. Schriften*, p. 200, refers the present passage to the *Eudemus* and supports against Rose (*Aris. Pseudopigr.* p. 58) the Aristotelian character of the dialogue as preserved for us.

Simplicius understands Aristotle to be referring as much to the *Phaedo* as to his own dialogue *Eudemus* : αἰνιττόμενος μὲν ἴσως καὶ τοὺς ἐν Φαίδωνι, λέγων δὲ καὶ τοὺς ὑπ' αὐτοῦ ἐν τῷ διαλόγῳ τῷ Εὐδήμῳ γραφέντας ἐλεγκτικούς τῆς ἁρμονίας. Philoponus quotes from the *Eudemus* a passage in which Aristotle criticizes the identification of mind with harmony by the same appeal to physical health as here (frag. 43, 1482^a 6) : τῇ ἁρμονίᾳ, φησί, τοῦ σώματος ἐναντίον ἐστὶν ἡ ἀναρμοστία τοῦ σώματος, ἀναρμοστία δὲ τοῦ ἐμψύχου σώματος νόσος καὶ ἀσθένεια καὶ αἰσχος· ὧν τὸ μὲν ἀσυμμετρία τῶν στοιχείων ἡ νόσος, τὸ δὲ τῶν ὁμοιομερῶν ἡ ἀσθένεια, τὸ δὲ τῶν ὀργανικῶν τὸ αἰσχος· εἰ τοίνυν ἡ ἀναρμοστία νόσος καὶ ἀσθένεια καὶ αἰσχος, ἡ ἁρμονία ἄρα ὑγίεια καὶ ἰσχυρὸς καὶ κάλλος· ψυχὴ δὲ οὐδὲν ἐστὶν τούτων οὔτε ὑγίεια φημί οὔτε ἰσχυρὸς οὔτε κάλλος· ψυχὴν γὰρ εἶχε καὶ ὁ Θερσίτης αἰσχιστος ὧν· οὐκ ἄρα ἐστὶν ἡ ψυχὴ ἁρμονία.

The reference however here is probably mainly to the *Phaedo* of Plato, particularly p. 92. ταῦτά σοι συμβαίνει λέγειν ὅταν φῆς μὲν εἶναι τὴν ψυχὴν πρὶν καὶ εἰς ἀνθρώπῳ εἶδος τε καὶ σῶμα ἀφικέσθαι εἶναι δ' αὐτὴν ξυγκειμένην ἐκ τῶν οὐδέπω ὄντων. οὐ γὰρ δὴ ἁρμονία γέ σοι τοιοῦτόν ἐστιν, φ' ἀπεικάξεις κ.τ.λ.

§ 5. 408^a 5. ἔτι δ' εἰ λέγομεν τὴν ἁρμονίαν εἰς δύο ἀποβλέποντες] Bonitz (*Hermes*, VII. 431) points out that this argument only repeats the first argument in which the meanings of ἁρμονία are similarly distinguished (καίτοι ἡ μὲν ἁρμονία λόγος τίς ἐστι τῶν μιχθέντων ἢ σύνθεσις), and suggests that the repetition is due to the failure of the editor of the *De An.* to incorporate the shorter with the fuller statement of the criticism.

§ 8. 408^a 24. εἰ δ' ἐστὶν ἕτερον ἡ ψυχὴ τῆς μίξεως] This passage may best be understood as a dialectical statement of the difficulties which attend on the contrary hypothesis. Aristotle has been so far arguing against the view that the soul is in harmony : it has, he says, *τοιαύτας ἀπορίας* : now, he turns round and points out what can be said in favour of the view. Shortly, as Bonitz says, the passage comes to this. If we give up the view which regards the soul as a harmony of the body it is difficult to understand why soul and body are connected in their dissolution so that when the body is dissolved the soul ceases to exist, when the soul departs the body is destroyed. Cp. Themistius (Spengel, p. 46), *ὅτι μὲν οὖν οἱ λέγοντες ἁρμονίαν τὴν ψυχὴν*

οὔτε ἐγγὺς ἄγαν οὔτε πόρρω τῆς ἀληθείας βάλλειν ἂν δόξειαν καὶ ἐκ τῶν νῦν εἰρημένων καὶ ἐκ τῶν ἐν ἄλλοις δῆλόν ἐστι, πιθανότητα δὲ πολλὴν ὁ λόγος ἔχει καθάπερ καὶ πρότερον ἔφην. πάλιν γὰρ εἰ παντελῶς ἕτερον ἢ ψυχὴ τῆς μίξεως καὶ τῆς κράσεως, διὰ τί τούτων φθειρομένων φθείρεται εὐθὺς ἡ ψυχὴ. The problem Aristotle himself solves by his conception of the soul as ἐντελέχεια of body.

Torstrik regards the passage from ἀπαιτήσσει to ἀπολειπούσης (18 to 29), as entirely parenthetical and confined to a criticism of the doctrine of Empedocles : so that the words *ὅτι μὲν οὖν οὐθ' ἁρμονίαν οἶόν τ' εἶναι τὴν ψυχὴν* merely take up the distinctive arguments adduced in §§ 2—6. But though this somewhat simplifies the argument, it would seem that with the criticism of the doctrines of Empedocles Aristotle blends ἀπορίαι of wider import. Confining the passage entirely to Empedocles, we must understand Aristotle as saying that the question under discussion cannot be settled, no matter whether we regard the soul as the same with the λόγος τῆς μίξεως or as different from it.

408^a 25. *τί δὴ ποτε ἅμα τῷ σαρκὶ εἶναι ἀναιρεῖται;*] Trendelenburg, holding that τὸ εἶναι refers always to the immaterial notion of an object, is perplexed at the fact that we have here ἅμα τῷ εἶναι in place of ἅμα τῇ σαρκί. But if we understand the word as referring, at least in many cases, simply to the concrete existence or being of a phenomenon no difficulty will arise. Philoponus comments : *τούτων γὰρ (μορίων) οὐτινος ἀναιρεθέντος συναναιρεῖται τὸ ζῶον· οὐ μέντοι οὐτινοσοῦν τῶν ὀργανικῶν. ἀναιρεῖσθαι δὲ λέγει οὐ τὸ ὑποκείμενον αὐτὸ τῶν ὁμοιομερῶν, ἀλλὰ τὸ εἶδος· διὸ οὐκ εἶπεν ἀναιρουμένης σαρκὸς ἀλλὰ τῷ σαρκὶ εἶναι.*

§ 11. 408^b 5. *εἰ γὰρ καὶ ὅτι μάλιστα τὸ λυπεῖσθαι*] Here, as Philoponus points out, we have the beginning of a sentence of which the apodosis is to be found in line 11, *τὸ δὲ λέγειν κ.τ.λ.* Bonitz, *Aris. Studien*, II. 22, reads τὸ τὴν καρδίαν ὡδὶ κινεῖσθαι in place of the dative τῷ on the ground that the mental phenomena in question are, by the advocates of this view, actually identified with movements, not merely regarded as caused by them. Further he reads τὸ δὲ διανοεῖσθαι ἢ τὸ τοῦτο ἴσως ἢ ἕτερόν τι : the meaning then being that thinking is (like fear, &c.) a movement of the heart or (more likely) of something else.

§ 12. 408^b 13. *βέλτιον γὰρ ἴσως μὴ λέγειν τὴν ψυχὴν ἐλεεῖν*] Cp., though the point of view is somewhat different, *De Part. Animal.* II. 7, 652^b 13, *ὁμοιον οὖν τὸ τὴν ψυχὴν εἶναι φάναι πῦρ καὶ τὸ πρίονα ἢ τρύπανον τὸν τέκτονα ἢ τὴν τεκτονικὴν, ὅτι τὸ ἔργον περαίνεται ἐγγὺς ἀλλήλων οὖσιν.*

408^b 17. *ἡ δ' ἀνάμνησις ἀπ' ἐκείνης ἐπὶ τὰς ἐν τοῖς αἰσθητηρίοις κινήσεις ἢ μονάς*] Themistius (Spengel, 51) comments as follows : *ἀλλὰ πῶς λέγω κινεῖσθαι τὸν ἄνθρωπον τῇ ψυχῇ ; ἢ ὡς μέχρις ἐκείνης ἢ ὡς ἀπ' ἐκείνης. ὅταν μὲν γὰρ τῶν ἔξωθεν αἰσθητῶν ἀντιλαμβάνεται μέχρι τῆς ἐπὶ ἐκείνην ἀναφορᾶς τὸ σῶμα κινεῖται τῶν αἰσθητηρίων εἰς τὴν ἀρχὴν αὐτῆς παραπεμπόντων τὰ πάθη ἃ ἀπὸ τῶν ἔξωθεν ἀνεμάχεται, ὧν ἀντιλαμβάνεται αὐτὴ ἀκίνητος μένουσα. λεγόμεθα τοίνυν τῇ ψυχῇ ταύτην κινεῖσθαι τὴν κίνησιν ὅτι τοῦ πάθους τῶν αἰσθητηρίων ἡ ψυχὴ ἡμῖν αἰτία καὶ τῆς δι' αὐτῶν διαδόσεως, ἐπεὶ νεκρωθέντων γε τῶν ὀργάνων τὸ τοιοῦτον πάθος οὐχ*

ἄπτεται· αἱ δὲ ἀναμνήσεις οὐκέτι μέχρις ἐκείνης ἀλλ' ἀπ' ἐκείνης· εἰς ὃ γὰρ ἐτελεύτησεν ἡ αἴσθησις, ἐντεῦθεν ἡ ἀρχὴ τῆς ἀναμνήσεως· προβάλλουσα γὰρ τὰ φαντάσματα ἀφ' αὐτῆς ἡ ψυχὴ καὶ ταῦτα ἀνελίττουσα ἐπὶ τὴν ἀνάμνησιν ἀφικνεῖται· τῷ οὖν ἀπ' ἐκείνης ἄρχεσθαι τὴν προβολὴν τῶν φαντασμάτων ἦν ὡς θησαύρισμα ἔχει λεγέται ἀπ' ἐκείνης ἡ ἀνάμνησις. εἰ δὲ μὴ κίνησιν τις λέγοι τὰ ἐγκαταλείμματα τῶν αἰσθητῶν ἀλλὰ μόνῃ μᾶλλον καὶ ἡρεμίας, πρὸς γε τὸν πάροντα λόγον οὐδὲν διοίσει.

The meaning of the passage would seem to be then dependent upon the fact that, according to Aristotle, there remain in the organs of sense after the disappearance of the actual sensation, impressions which Aristotle calls *κινήσεις* and also in several places *μοναὶ* (*v. Anal. Post.* II. 19, 99^b 36 and *De Insom.* 461^a 18). And as *ἀνάμνησις* itself is like a syllogistic process (*De Memor.* 2, 453^a 9) in effecting recollection through an association of ideas it proceeds outward as it were, from the soul and the idea which happens to be present to it, to the impressions which are stored up in the sense-organs and of which it is in search. So Freudenthal, p. 7. Trendelenburg takes the passage to mean simply that the imagination (which is closely connected with the recollection) of anything is accompanied by a sensuous picture of it, so that if we say we think of what we have perceived we really see it, if of what we hear we really hear it. But this of course is quite outside the meaning.

§ 13. 408^b 18. ὁ δὲ νοῦς ἔοικεν ἐγγίνεσθαι] The drift of Aristotle's reasoning is that if movement cannot be rightly predicated of the remainder of the *ψυχὴ*, still less can it of the *νοῦς* or reason. Reason is an *οὐσία*, a self-contained, self-subsisting substance implanted from without, and not at all influenced by the mutations of the body: it is in fact *ἀπαθής*. The work of thinking (*νοεῖν*) may indeed be weakened, but the thought which is the source of all this operation renders itself intact. The passage of course anticipates the doctrine of *De An.* III. cc. 4 and 5, and may be compared with *De Gen. An.* 3, 736^b 28, *λείπεται δὲ τὸν νοῦν μόνον θύραθεν ἐπεισιέναι*. The meaning of the illustration which follows is simply that just as the decay of sight in the old means only a decay in the organ of sight, and not in the *ὀπτική δύναμις* which employs it, so the failing of the intellectual powers is nothing but a failing of the bodily *conditions* of thought, and not of the thought itself. So Themistius (Spengel, p. 54), *ἐξ ὧν δὴλόν ἐστι, καθάπερ τὴν αἴσθησιν τίθεται μὴ συμπάσχειν καμνοῦσι τοῖς ὀργανοῖς ὑπὸ τοῦ γήρωος οὕτω καὶ τὸν νοῦν μὴ συγκάμνειν τῷ ἔνδον ὀργάνῳ καὶ οὐδὲ ἐπὶ τῆς αἰσθήσεως ἴσταιται μόνῃς*.

408^b 22. ὥστε τὸ γήρας οὐ τῷ τὴν ψυχὴν τι πεπονθέναι, ἀλλ' ἐν ᾧ] Themistius is disturbed at the conclusions which would seem logically to follow from this doctrine. What holds good in this way of the reason must he thinks hold good also of the soul taken as a whole: *εἰ γὰρ τὸ γήρας οὐκ ἐν τῷ τὴν ψυχὴν πεπονθέναι ἀλλ' ἐν ᾧ καθάπερ ἐν μέθαις καὶ νόσοις, εἰ δὲ τοῦτο, καὶ ἡ φυτική ἀπαθής ἂν εἴη καὶ ἡ ψυχὴ καὶ διὰ τοῦτο ἀθάνατος*. Nor can we get over the difficulty by saying simply with Philoponus, *οὐ περὶ πάσης ψυχῆς αὐτῷ ὁ λόγος ἀλλὰ περὶ τοῦ νοῦ· καὶ τοῦτον ψυχὴν νοῦν καλεῖ*. Themistius in fact would seem right in holding that Aristotle is not so much laying down any

systematic doctrines as raising suggestions : *νῦν γὰρ ἀπορούντι καὶ αὐτὸς μᾶλλον ἢ διδάσκοντι προσέοικε*.

§ 14. 408^b 25. *ἄλλου τινὸς ἔσω φθειρομένου*] Bonitz would read *ἐν* *φ* in place of *ἔσω* as in line 23. Philoponus tries with no great success to determine what we are to understand by this internal substance : *τοῦτο γίνεσθαι φησι τοῦ πνευματικοῦ σώματος ἐν φ* *πρώτως ἐλλάμπουσιν αἱ ψυχικαὶ δυνάμεις φθοράν τινα ὑπομένοντος*.

§ 16. 408^b 32. *πολὺν δὲ τῶν εἰρημένων ἀλογώτατον*] The doctrine in question, we learn from the older commentators, was held by Xenocrates and expounded in his work *περὶ φύσεως*. The opinion is referred to in *Anal. Post.* II. 491^a 37, and *Tor.* III. 6, 120^b 3.

409^a 1. *πῶς γὰρ χρηνοῆσαι...καὶ πῶς...*] The first *πῶς*, Philoponus explains, refers to the *τρόπος τῆς γνώσεως*, the second to the *τρόπος τῆς κινήσεως*, *πότερον κατ' εὐθείαν κινεῖται ἢ κύκλῳ ἢ ἄλλως πῶς*.

409^a 3. *διαφέρειν δεῖ*] Being one thing as moving, the other thing as moved.

§ 19. 409^a 10. *δόξειε δ' ἂν οὐθὲν διαφέρειν*] The force of course of this argument is that Xenocrates' doctrine may be regarded as identical with the atomic theory of soul brought forward by Democritus : and the same difficulties therefore which meet the one must also meet the other. Subtract magnitude from the atoms and points, and monads will alone remain : and it will follow that soul must be confined to the moving factors *only*. The gist therefore of the comparison is to be found in line 17, *ᾧστε οὐ τὸ κινεῖν καὶ τὸ κινούμενον ἢ ψυχῇ, ἀλλὰ τὸ κινεῖν μόνον*. Cp. Philoponus, *οὐδὲν δὲ τὴν ὑπόθεσιν Δημοκρίτου λυμαίνεται τὸ ἀφελεῖν τῶν ἀτόμων τὸ συνεχές· οὐδὲ γὰρ διὰ τὸ συνεχῆ σώματα εἶναι ἔλεγον αὐτὰ κινεῖσθαι, ἀλλὰ διὰ τὸ πλήθος αὐτῶν τῇ ἀντωθήσει τῇ πρὸς ἄλληλα*.

409^a 20. *πρὸς τὰς ἄλλας*] which do not constitute souls.

§ 20. 409^a 21. *εἰ μὲν οὖν εἰσὶν ἕτεραι*] The argument would seem to be a *reductio ad absurdum* of the position of Xenocrates by the help of a dilemma. If, it is argued on the one hand, the monads which constitute the soul are to be regarded as *different* from the points which make up the body, there will have to be two things in one and the same space, and if two, more are possible—which is absurd : if, it is argued on the other hand, the soul be *identified* with the number which forms itself from the points in the body, the question rises why do not all things have souls just as they have points and 'numbers' of points. Thus the words *ᾧν γὰρ ὁ τόπος ἀδιαίρετος, καὶ αὐτὰ* are intended to bring out the absurdity of the first member of the dilemma : an endless number of points cannot meet in one point : because—and here come in the words under investigation—just as a space while remaining indivisible cannot be divided, so neither can points which are different in position only be so divided as not to be several in number. Themistius, failing to see that the clause is intended to bring out the absurdity of the conclusion, paraphrases, *ᾧν γὰρ ὁ τόπος ἀδιαίρετος καὶ αὐτὰ συντιθέμενα διαιρετὸν οὐ ποιεῖ μέγεθος οὐδὲ δεῖ πλείονος τόπου*. The two absurd conclusions are

restated in the following chapter, 409^b 4, ἐν τῇ μιᾷ στιγμή πολλὰς στιγμὰς ἢ πᾶν σῶμα ψυχὴν ἔχειν.

§ 22. 409^a 28. ἔτι δὲ πῶς οἷόν τε χωρίζεσθαι τὰς ψυχὰς] This criticism argues against the Platonists from their own standpoint. The point cannot exist alone (except by abstraction) and so similarly the soul, if reduced to mathematical points, will be unable to exist apart from the body. But Xenocrates, as a Platonist, would maintain that the soul could be separated from the body: and his theory is therefore incompatible with the rest of his psychology. Torstrik regards τὰς ψυχὰς as due simply to a marginal explanatory note and reads instead τὰς στιγμὰς. He quotes Sophonias in support: ἔτι εἴπερ χωριστὴ ἡ ψυχὴ πῶς οἷόν τε χωρίζεσθαι τὰς στιγμὰς καὶ ἀπολύεσθαι τῶν σωμάτων ἃς δὴ ψυχὴν ὑπετίθεντο; οὐ γὰρ εἰς στιγμὰς (1. γραμμὰς) διαιρήσουσιν (οὐ μέρη γὰρ αὐτῶν) οὔτε εἰς γραμμὰς τὰ ἐπίπεδα.

CHAPTER V.

This chapter continues (§§ 1—4) the examination of the doctrine of Xenocrates, that mind is to be regarded as a spontaneously motive number: and afterwards (§§ 5—22), investigates the view which resolves mind into certain constituent elements. The first book then closes (§§ 24—26) by suggesting some questions which psychology should solve, as to the unity and uniformity of soul.

§ 1. 409^b 1. ἴδιον τὸ ἄτοπον] Torstrik would reject the words because the inconsistency in question is not confined to Xenocrates, but shared in common with the theory of Democritus. But the passage may be defended by reference to 408^b 33, ὑπάρχει γὰρ αὐτοῖς ἀδύνατα' πρῶτα μὲν...ἰδίᾳ δ' ἐκ τοῦ λέγειν αὐτὴν ἀριθμόν. Vahlen also argues against Torstrik in his edition of the *Poetics*, p. 107.

409^b 5. εἰ μὴ διαφέρων κ.τ.λ.] i.e. unless the monads of the soul be different from those of the body.

§ 3. 409^b 17. ὥσπερ γὰρ εἴπομεν πρότερον] Trendl. refers to 1. 3, 4, 406^a 26, ποῖαι δὲ βίαιαι τῆς ψυχῆς κινήσεις ἔσονται...οὐδὲ πλάττειν ῥάδιον: but this does not seem to meet the case. Aristotle is more probably referring to 1. 4, § 4, 408^a 3, φανερώτατον δ' εἴ τις ἀποδιδόναι πειραθεῖν τὰ πάθη καὶ τὰ ἔργα τῆς ψυχῆς ἁρμονίᾳ τινί—at least the words πάθη καὶ ἔργα occur in both passages.

§ 5. 409^b 27. ὥσπερ ἂν εἰ...τιθέντες] For an explanation of the process by which ἂν in this and similar forms of expression has lost its force, see Cope on *Rhetoric*, I. 1, 15, "The conditional ἂν belongs to some verb in the apodosis originally expressed, afterwards left to be understood."

§ 6. 410^a 5. τὰ δύο τῶν ὀκτώ] So Torstrik probably rightly amends the line. τὰ δὲ (the reading of V) will not scan, τῶν in ESTUX makes no sense. Trendelenburg conjectured τὰς δύο τῶν ὀκτὼ μοιρῶν λάχε νῆστιδος αἵγλης, τέσσαρας

Ἠφαίστιοι. As to νήστιδος αἴγλης, Philoponus comments, σημαίνει δὲ διὰ μὲν τῆς νήστιδος παρὰ τὸ νάειν τὸ ὑγρὸν τοῦ ὕδατος καὶ τοῦ ἀέρος, διὰ δὲ τῆς αἴγλης τὸ διαφανές. In Empedocles, I. 27, νήστις is spoken of as a goddess: Νήστις θ' ἡ δακρύοις τέγγει κρούνωμα βρότειον. On ἐπιήρος Simplicius remarks, ἐπιήρος δὲ τουτέστιν ἐναρμόνιος, εἰρηται ἢ γῆ ὡς κύβος κατὰ τὴν τῶν Πυθαγόρειον παράδοσιν.

410^a 11. εἰ ἔνεστιν ἐν τῇ ψυχῇ λίθος] Cp. *De An.* III. 8, 431^b 29, οὐ γὰρ ὁ λίθος ἐν τῇ ψυχῇ ἀλλὰ τὸ εἶδος.

§ 7. 410^a 13. ἔτι δὲ πολλαχῶς λεγομένου τοῦ ὄντος] The connection of this passage would seem to be correctly given by Themistius (Spengel, p. 60). The general argument is that if mind is to consist of the elements, in order to know existence it must consist of *all* the elements of existence. But these elements of existence are the categories. Either then, Aristotle argues, the soul must consist of elements which will embrace all the categories of existence, or it must consist of the categories *separately*, with a view to knowing each aspect of existence. But the former supposition cannot be accepted because there is no common category of the categories; the latter cannot be accepted because the mind remains throughout an οὐσία, and no combinations of ποσόν, ποιόν, &c. will ever create anything but another ποσόν or ποιόν.

410^a 16. ἀλλ' οὐ δοκεῖ κοινὰ πάντων εἶναι στοιχεῖα] Themistius expands: ἀλλ' οὐ δοκεῖ κοινὰ πασῶν εἶναι τὰ στοιχεῖα, οἷον ἀνθρώπου καὶ τοῦ ποιεῖν καὶ τοῦ πάσχειν καὶ τῶν ἐφεξῆς ἀλλ' ἐκ μόνης τῆς οὐσίας.

410^a 20. ἔσται ἄρα ποσὸν καὶ ποιὸν καὶ οὐσία' ἀλλ' ἀδύνατον κ.τ.λ.] Trendelenburg supposes these two sentences should be transposed and ἔσται ἄρα ποσόν regarded as the consequence of ἀλλ' ἀδύνατον. Torstrik thinks the words ἔσται...οὐσία should be struck out as not repugnant to ἀλλ' ἀδύνατον as they would seem to be intended to be. An analysis however of the passage seems to shew that the traditional text is probably correct. Aristotle is arguing that it will not do to say that each separate category has its own elements, and that the soul is composed of such elements. 'The στοιχεῖα, for instance, of ποσόν, we may suppose would be number, line, figure: those of ποιόν would be colour, sound, &c. For, on this supposition, the soul will have to be a quantity, quality, relation, &c. But—and this seems to be the assumption covered by καὶ οὐσία—the soul remains always a concrete substance or οὐσία. But how, if it be for the time exclusively a ποσόν is it to be simultaneously an οὐσία? the elements of ποσόν can give rise only to a ποσόν, those of ποιόν only to a ποιόν, never to an οὐσία. And thus this account fails to explain the most fundamental fact about the ψυχή—the fact, viz., that it is an οὐσία.

§ 9. 410^a 27. πολλὰς δ' ἀπορίας...μαρτυρεῖ τὸ νῦν λεχθέν] The passage, as most of the commentators have remarked, forms no true period: nor will it do to construe it as meaning "bears witness to the difficulties of holding to the doctrine (δυσχερείας ἔχοντος τοῦ λέγειν) as G. in Trendelenburg suggests. Torstrik is perhaps right in regarding μαρτυρεῖ τὸ νῦν λεχθέν as an attempt to fill up a lacuna, though it might be supposed that an interpolator would have

made a better business of his work. He rightly also objects to taking *λεχθέν* as equal to *λεχθισόμενον*, to which however Philoponus and Simplicius tell us it is here equivalent.

§ 10. 410^b6. *ἐκ πάντων γὰρ ἕκαστον*] Torstrik regards as the insertion of some interpolator *de Anaxagora somniantis*.

§ 13. 410^b21. *ὁμοίως δὲ καὶ ὅσοι τὸν νοῦν καὶ τὸ αἰσθητικὸν ἐκ τῶν στοιχείων ποιοῦσιν*] Torstrik would reject the words *τὸν νοῦν καὶ τὸ αἰσθητικόν* as also *φορᾶς οὐδέ*. "Ut enim," he says, "quam maxime immobiles sint plantae, non sequitur ut non omnis anima sentiat nec motionis gratia ex elementis isti animam procreaverant." And besides, he argues, we must strike out the words *τὸν νοῦν καὶ τὸ αἰσθητικόν*. For, he continues, let us suppose them written by Aristotle. The syllogism of the adversaries will then run as follows: Quicquid sentit et intelligit, idcirco sentit et intelligit quod ex elementis rerum compositum est; intellectus et sensus intelligit et sentit: ergo intellectus et sensus ex elementis rerum compositus est—a syllogism which, says Torstrik, apart from its tautology, is no way liable to the charge which Aristotle brings against those thinkers that their theory does not hold good of every form of soul.

But this would seem to be to miss Aristotle's argument. Aristotle is simply saying: Both orders of previous psychologists take a one-sided inadequate view of *ψυχή*. The one identify *ψυχή* with our cognitive perceptive powers—the other with our active and emotional faculties. But the one as well as the other have taken for the whole what is in reality but a part. Animals may have faculties of sense and yet not have movement (a fact which upsets the identification of *ψυχή* with *κίνησις* because here we have *ψυχή* without *κίνησις*): plants live and yet have neither movement nor *αἴσθησις* (that is their *ψυχή* cannot be identified with either cognitive or active faculties): many animals live and yet possess no *διάνοια* (that is, their *ψυχή* cannot be resolved into the higher intellectual powers). Thus though the statement of the reasoning is not altogether unimpeachable it seems possible to make a satisfactory argument out of the ordinary text.

§ 14. 410^b27. *οὐδὲ περὶ ὅλης μῆας*] So Torstrik it would seem rightly; *οὐδὲ μῆας* is the reading of ETUVW. Philoponus reads *οὐδὲ ὅλης οὐδὲ περὶ μῆας*, and would seem rightly to take the words as an answer to an objection supposed to be raised to Aristotle's argument with a view to shewing that the theory is not intended to apply to mind generally but to one single form of mind—viz. the human. *ἵνα γὰρ μή τις ὑπὲρ τῶν τὸ γνωριστικὸν τὴν ψυχὴν εἶναι τιθέντων ἀπολογούμενος εἴποι ὅτι οὐ περὶ πάσης ψυχῆς αὐτοῖς ὁ λόγος, ἀλλὰ περὶ τῆς ἀνθρωπίνης ἥς πάσης ἴδιον τὸ γινώσκειν διὰ τοῦτό φησιν ὅτι οὐδὲ περὶ ὅλης μῆας ποιοῦνται τὸν λόγον. ἡ γὰρ ἀνθρωπίνη ψυχὴ οὐ πᾶσα καθ' ὅλην ἑαυτὴν γνωριστικὴ ἐστίν. ἔστι γὰρ καὶ ἐν αὐτῇ καὶ τὸ θυμικὸν καὶ ἐπιθυμητικὸν καὶ φυτικόν· ὧν οὐδὲν αἰσθήσεως μετέχει· οὐδὲ περὶ τῆς ἀνθρωπίνης ἄρα πάσης διελέχθησαν.*

§ 15. 410^b28. *ἐν τοῖς Ὀρφικοῖς ἔπεσι καλουμένοις*] These Orphic compositions are referred to again in *De Gen. Animal.*, II. 1, 734^a19, *ὥσπερ ἐν τοῖς καλου-*

μένοις Ὀρφείως ἔπαινον ἐκεί γὰρ ὁμοίως φησὶ γίνεσθαι τὸ ζῶον τῇ τοῦ δικτύου πλοκῇ. As Trendelenburg remarks, the word *καλουμένα* in both passages implies a certain amount of doubt as to whether the verses in question should be or should not be rightly ascribed to Orpheus. So Philoponus, *Καλουμένοις εἶπεν ἐπειδὴ μὴ δοκεῖ Ὀρφείως εἶναι τὰ ἔπη*, ὡς καὶ αὐτὸς ἐν τοῖς περὶ φιλοσοφίας λέγει. αὐτοῦ μὲν γὰρ εἰσι τὰ δόγματα. ταῦτα δὲ φησιν Ὀνομάκριτον ἐν ἔπεισι κατατείνειν. As to the doctrine itself in question Trendelenburg refers to Stobaeus *Ecl.* I. 52. 898 where Iamblichus is quoted: *τινὲς τὴν ψυχὴν ἀπὸ τοῦ ἀναψύχεσθαι ὑπὸ τοῦ ψυχροῦ ὀνομάσθαι ἀποφαίονται καὶ τὸν ἀναπνεόμενον ἀέρα ψυχὴν νομίζουσιν, ὥσπερ Ἀριστοτέλης παρὰ Ὀρφείως ἐν τοῖς φυσικοῖς ἔπεισι λέγεσθαι τὴν ψυχὴν ὡς εἰσεῖναι ἐκ τοῦ ὅλου ἀναπνεόντων ἡμῶν φερομένην ὑπὸ τῶν ἀνέμων. ἔοικε γὰρ μὴν ὁ Ὀρφεὺς χωρὶς ὑπολαμβάνειν εἶναι διαμέσεις πολλὰς δὲ καὶ μέσας ἐπιπνοίας καθήκειν ἐπὶ τὰς μεριστὰς ψυχὰς ἀπὸ τῆς ὅλης ψυχῆς.*

411^a I. τοῦτο δὲ λελθθε] τοῦτο is taken by Simplicius alone to refer to what precedes: Themistius, Philoponus and Sophon. refer it to what follows. Trendelenburg follows Simplicius.

§ 16. 411^a 2. εἰ δὲ δεῖ] so Trendelenburg: "Requiritur enim aliqua oppositio." Bekker reads εἴτε.

411^a 6. κριτὴς γὰρ ἀμφοῖν ὁ κανὼν] Cp. Spinoza, Verum sui index et falsi.

§ 17. 411^a 8. Θαλῆς φήθη πάντα πλήρη θεῶν εἶναι] Cp. Cic. *de Legg.* ii. 11, § 26: "Thales homines (dicit) existimare oportere omnia quae cernerentur Deorum esse plena: fore enim omnes castiores veluti qui in fanis essent maxime religionis."

§ 21. 411^a 17. ὅτι τὸ ὅλον τοῖς μορίοις ὁμοειδές] so that, as Themistius expands the reasoning, εἴπερ τὸ ἐν ἡμῖν ὕδωρ ἔμφυχον καὶ τὸ πᾶν ὕδωρ.

411^a 20. εἰ δ' ὁ μὲν ἀπὸ διασπώμενος ὁμοειδής, ἡ δὲ ψυχὴ ἀνομοιομερής, κ.τ.λ.] The argument as Philoponus indicates seeks to refute the panpsychic theory out of its own assumptions. The separate arguments are as follows:

The Theory that mind is present in all the Elements is false because, 1st, (§ 18) Air and Fire do not become living things, as they should if possessed of *ψυχή*.

(2nd) (§ 19). The theory gives no grounds for holding that the soul of any one element is of higher character than that of another—which nevertheless is a portion of the theory in question.

(3rd) (§ 20). Either, on the theory, air, fire, &c. are ζῶα—which is absurd—or, if not, the theory is inconsequent.

(4th) (§ 21). The theory is self-contradictory. Deriving soul from the environment it should make it ὁμοειδής through all its different parts. But the soul being, on their own shewing, not homogeneous but composed of unlike parts, it follows that in soul only part of what constitutes soul will be present while part will be away. If in other words the soul of the air in the universe is different from that of the soul within us τὸ μὲν τι ὑπάρχει τῆς ψυχῆς εἶδος τῷ ἀέρι τῷ ἐν ἡμῖν, τὸ δὲ τι οὐκ ἔστι, ἀλλὰ τῷ ὅλῳ. But the words ἡ δὲ ψυχὴ ἀνομοιομερής may refer not to the opinion of his adversaries but to a generally

acknowledged truth of the diversity of soul in animals, plants, &c. So Torstrik: Immo propositionem quae in refutatione efficienda minor est tanquam ab omnibus concessam ne ponit quidem, animam nimirum humanam differre ab anima ceterorum animalium, a plantae anima utramque. Torstrik it should be added further views the words *ὑπάρξει δῆλον ὅτι* as the gloss of an interpolator.

§ 24. 411^b 5. λέγουσι δὴ τινες μεριστὴν αὐτήν] The reference is to the Platonic psychology as expounded in the *Republic* and *Timaeus*. Cp. *Repub.* 436 A, *μανθάνομεν μὲν ἑτέρω, θυμούμεθα δὲ ἄλλω τῶν ἐν ἡμῖν, ἐπιθυμούμεν δ' αὖ τρίτῳ τινὶ τῶν περὶ τὴν τροφήν τε καὶ γένεσιν ἡδονῶν.* *Timaeus* 69 D.

BOOK SECOND.

CHAPTER I.

Aristotle now enters on the dogmatic part of his psychology by giving an account of soul as such in its most comprehensive aspect. Beginning by viewing soul simply as an existing thing or substance, he goes on to view it as the perfect realization or truth of body, the *ἐντελέχεια* or *οὐσία κατὰ λόγον*, which however is not to be taken as something explicit and active, but rather as implicit and dormant, so that the *ἐντελέχεια* is not so much like *θεωρεῖν* as *ἐπιστήμη*, and is therefore described as first and earlier rather than second. Soul and body are therefore intimately connected, though soul must not be viewed as necessarily dependent on the body.

§ 1. 412^a 3. τὰ μὲν δὴ ὑπὸ τῶν πρότερον παραδεδομένα] Besides the vulgate as here given, MS. E contains in the margin the fragment of another version, forming the basis of Torstrik's theory of an earlier and later recension of the text. For this see Appendix.

§ 2. 412^a 6. λέγομεν δὴ γένος ἔν τι τῶν ὄντων τὴν οὐσίαν] For an explanation of *οὐσία* and the other words employed by Aristotle in his definition of the *ψυχῇ*, see the Introduction, p. xl.

412^a 7. ταύτης δὲ τὸ μὲν ὡς ὕλην κ.τ.λ.] Cp. *Metaφh.* Δ. 8, 1017^b 22, συμβαίνει δὴ κατὰ δύο τρόπους τὴν οὐσίαν λέγεσθαι, τὸ θ' ὑποκείμενον ἔσχατον, ὃ μηκέτι κατ' ἄλλου λέγεται, καὶ ὃ ἂν τόδε τι ὦν καὶ χωριστὸν ἢ τοιούτων δ' ἐκάστου ἡ μορφή καὶ τὸ εἶδος: *Meta.* Δ. 3, 1070^a 9, οὐσίαι δὴ τρεῖς κ.τ.λ.: *Meta.* Ζ. 3, 1029^a 1, μάλιστα γὰρ δοκεῖ εἶναι οὐσία τὸ ὑποκείμενον πρῶτον. τοιούτων δὲ τρόπον μὲν τινα ἡ ὕλη λέγεται, ἄλλον δὲ τρόπον ἡ μορφή, τρίτον δὲ τὸ ἐκ τούτων.

412^a 10. It is worth while noticing that the same remark is repeated in line 22.

412^a 10.

καὶ τοῦτο διχῶς, τὸ μὲν ὡς
ἐπιστήμη, τὸ δ' ὡς τὸ θεωρεῖν.

412^a 22.

αὕτη δὲ λέγεται διχῶς, ἡ μὲν
ὡς ἐπιστήμη, ἡ δ' ὡς τὸ θεωρεῖν.

And unfortunately for Torstrik's theory, *both* the passages in question occur in the *editio prior* of the Paris MS., at least the first (412^a 10) does so

altogether, and the second as a fragment which Torstrik has filled up so as to make it agree with ^a22.

§ 3. 412^a 12. ταῦτα γὰρ τῶν ἄλλων ἀρχαί] i.e. natural concrete bodies are the realities from which mathematical and artistic forms may be said to be derived.

412^a 16. οὐσία δ' οὕτως ὡς συνθέτη] The living body is a composite substance, as consisting of matter and form in combination. So in *Metaph.* H. 3, 1043^a 18, Aristotle says that while some define a house by telling its bricks and planks, and so give its ὄλη, and others define it as a protective covering, and so give its ἐνέργεια, a third class combine the two, and state its οὐσία—οἱ δ' ἅμωφ ταῦτα συντίθεντες τὴν τρίτην καὶ τὴν ἐκ τούτων οὐσίαν. Cp. also Δ. 24, 1023^a 31. The meaning of the qualifying phrase οὕτως ὡς is, as Trendelenburg points out, that to speak of composition as applied to nature is to employ an abstraction to which nothing in nature corresponds. "Nature in her productive operations nowhere separates the form and the matter, so that it cannot under any circumstances be said to have 'combined'."

§ 4. 412^a 16. ἐπεὶ δ' ἐστὶ σῶμα καὶ τοιονδί] The argument, Pacius points out, is:

Soul is not a *subject* but is in a subject:

Body is a *subject*, not in a subject:

∴ Body is not soul.

§ 6. 412^a 28. τοιοῦτο δὲ ὁ ἄν ἢ ὀργανικόν] The epithet ὀργανικόν would seem to be regarded by the writer as preferable to ζῶν ἔχον, because while ζῶν is the effect of soul, ὀργανικόν refers to more essential and primary properties.

412^b 1. ὄργανα δὲ καὶ τὰ τῶν φυτῶν μέρη] This would seem to be a reply to a supposed objection. The name of "organs" cannot, it might be said, be applied to the parts of plants, &c. which yet notwithstanding possess a "soul." That, Aristotle now goes on to say, is not the case: the parts of plants are also organs.

412^b 3. αἱ δὲ ρίζαι τῷ στόματι ἀνάλογον] Cp. *De Part. Anim.* II. 3, 650^a 23, and IV. 10, 686^b 28.

§ 7. 412^b 8. τὸ γὰρ ἐν...πλεοναχῶς λέγεται] Philoponus comments—λέγεται γὰρ ἐν ἡ τῷ γένει ἡ τῷ εἶδει ἡ τῷ ἀριθμῷ ἡ δέσμῳ ἡ κόλλῃ ἡ ὅσα ἄλλα ἐν τῇ φυσικῇ σημαινόμενα τοῦ ἐνὸς ἀριθμεῖται, ἔτι δὲ καὶ τοῦ εἶναι: καὶ τοῦ μὲν ὄντος δυνάμει, τοῦ δὲ ἐντελεχείᾳ, τὸ κυρίως ἐν καὶ τὸ κυρίως εἶναι τοῖς πράγμασιν κατὰ τὴν ἐκάστου ἐντελεχείαν ἐστὶ. Cp. *Meta.* H. 6. 1045^a.

§ 8. 412^b 15. νῦν δ' ἐστὶ πέλεκυς] So all the MSS. Torstrik regards the words as absurd, and amends them by omitting πέλεκυς, and reading νῦν δ' οὐκ ἔστιν, with which ψυχὴ τοῦτο is to be supplied. Evidently, however, this is not Aristotle's meaning. What Aristotle says is, that soul is the realization of the body; and he illustrates this by the *supposition* that an artificial body such as an axe were a natural body. Then, under this supposition (ἣν μὲν γὰρ ἄν), its axehood would be its truth and soul. But, he goes on, our supposition is not tenable: our axe is merely an axe, an artificial body, and therefore cannot,

except by way of illustration, be said to have a soul, which is the essence and the truth, not of artificial creations, but of natural bodies possessed of internal powers of movement.

§ 9. 412^b 20. ὁ δ' ὀφθαλμός ὕλη ὀψέως] Torstrik thinks that the eye alone cannot be called the ὕλη of vision, and imagines Aristotle must have written ὁ δ' ὀφθαλμός τὸ σύνολον, ἡ δὲ κόρη ὕλη ὀψέως—a result strengthened to his mind by the fact that the remains of the *editio prior* require more words to be supplied than the vulgate offers.

412^b 23. ὥς τὸ μέρος πρὸς τὸ μέρος] The passage simply means that perception generally stands to the sensitive faculties generally in the same relation as any particular act of sense (*e.g.* sight) stands to the particular organ (*e.g.* the eye).

§ 10. 412^b 25. ἔστι δὲ οὐ τὸ ἀποβεβληκός] Here, as I have tried to bring out in the translation, Aristotle is seeking to explain the remaining part of his definition in § 5, 412^a 28: σπέρμα and καρπός, it is to be noted, are introduced in 412^b 27 as instances of things which are *not* sufficiently advanced in the potentiality of life to have a soul. So Themistius, δῆλον τοίνυν ἐκ τῶν εἰρημένων ὡς οὔτε τοῦ νεκροῦ σώματος ἐντελέχεια ἡ ψυχὴ οὔτε τοῦ σπέρματος· τὸ μὲν γὰρ οὐκ ἔχει ζωὴν, τὸ δὲ οὐδέπω, καὶ τὸ μὲν οὔτε δύναται ζῆν ἔτι, τὸ δὲ δύναται μὲν ἀλλ' ὕστερον. In fact, as Philoponus explains, by a σῶμα δυνάμει ζωὴν ἔχον Aristotle means the τελείον ἤδη καὶ ὀργανικόν.

§ 12. 413^a 7. διὰ τὸ μηθενὸς εἶναι σώματος ἐντελείας] This exclusion of the reason from the general conditions of the ψυχὴ raises at once, as Pacius points out, the question whether reason is itself a part or form of the soul. But the question of a νοῦς χωριστός must be left to the Third Book.

§ 13. 413^a 9. ὥσπερ πλωτήρ] The force of the illustration would seem to be to shew that even though soul is always ἐντελέχεια of the body, it may yet be separated from it. Just as the sailor, though giving life and soul to his boat, can exist apart from it, so can the soul exist apart from the body.

CHAPTER II.

This chapter takes up a new point of view (ἀρχή) in the exposition of the soul, and completes the abstract metaphysical account of it just given by a statement of the different faculties through which it manifests its activity. The relation between these different faculties and their compatibility with the unity of the soul suggests some questions for consideration, and leads the writer to reassert his doctrine of soul as the truth of body.

§ 1. 413^a 11. ἐπεὶ δ' ἐκ τῶν ἀσαφῶν μὲν φανερωτέρων δὲ γίνεται τὸ σαφές] Cp. *Phys.* I. 1, 184^a 18: οὐ ταῦτ' ἡμῖν τε γνώριμα καὶ ἀπλῶς. διόπερ ἀνάγκη τὸν τρόπον τοῦτον προάγειν ἐκ τῶν ἀσαφεστέρων μὲν τῇ φύσει, ἡμῖν δὲ σαφεστέρων ἐπὶ τὰ σαφέστερα τῇ φύσει καὶ γνωριμώτερα. ἔστι δ' ἡμῖν πρῶτον δῆλα καὶ σαφὴ τὰ συγκεχυμένα μᾶλλον· ὕστερον δ' ἐκ τούτων γίνεται γνώριμα τὰ στοιχεῖα καὶ αἱ ἀρχαὶ διαιροῦσι ταῦτα. διδὲ ἐκ τῶν καθόλου ἐπὶ τὰ καθ' ἕκαστα δεῖ προϊέναι. The basis

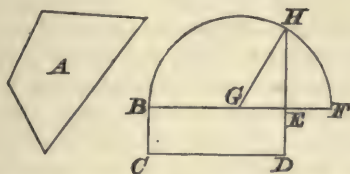
of this theory of method lies of course in Aristotle's distinction between what is "better known" in the order of nature and "better known" relatively to us: about which see *Topics*, VI. 4, 141^b 5, and *Anal. Post.* I. 2, 71^b 34. In the former passage Aristotle brings out the distinction by shewing that while in the order of nature, or *ἀπλῶς*, the point is prior to the line, and the line again to the superficies, relatively, on the other hand, to us and in the order of knowledge, the superficies stands first, the point or *στιγμή* last. The passage from the *Post. Anal.* explains the relatively prior in the order of knowledge to be the more immediate facts of sense, while the prior and better known in the order of thought and nature are the universal truths "further removed from sense." The consequence of the doctrine is that the initial study of a subject should be inductive, and only at a later stage become syllogistic. Cp. *Meta.* Z. 4, 1029^b 4, and *Anal. Post.* II. 23, 68^b 35. The practical meaning of the method in its present application is, that we should begin with effects and argue back to causes,—arrive, in other words, at a conception of what soul is in itself by studying the phenomena in which it manifests its activity. A similar method is recommended to the moralist in *Eth. Nic.* I. 4, 1095^b 2.

413^a 13. οὐ γὰρ μόνον τὸ ὅτι δεῖ τὸν ὀριστικὸν λόγον δηλοῦν] Cp. *Anal. Post.* II. 8, 93^a 17, where Aristotle distinguishes between a knowledge of the *ὅτι* and a knowledge of the *διότι*, and *An. Post.* II. 10, 94^a 11, where three kinds of definitions are enumerated. ὀρισμὸς δ' ἐπειδὴ λέγεται εἶναι λόγος τοῦ τί ἐστίν, φανερόν ὅτι ὁ μὲν τις ἔσται λόγος τοῦ τί σημαίνει τὸ ὄνομα ἢ λόγος ἑτεροῦ ὀνοματώδους, οἷον τὸ τί σημαίνει, τί ἐστίν τρίγωνον. ὅπερ ἔχοντες ὅτι ἔστι ζητούμεν διὰ τί ἐστίν. εἰς μὲν δὴ ὅρος ἐστίν ὅρου ὁ εἰρημένος, ἄλλος δ' ἐστίν ὅρος λόγος ὁ δηλῶν διὰ τί ἐστίν. ὥστε ὁ μὲν πρότερος σημαίνει μὲν, δείκνυσι δ' οὐ, ὁ δ' ὕστερος φανερόν ὅτι ἔσται οἷον ἀποδείξεις τοῦ τί ἐστίν, τῇ θέσει διαφέρων τῆς ἀποδείξεως. διαφέρει γὰρ εἰπεῖν διὰ τί βροντᾷ καὶ τί ἐστίν βροντή. ἐρεῖ γὰρ οὕτω μὲν διότι ἀποσβέννυνται τὸ πῦρ ἐν τοῖς νέφεσι· τί δ' ἐστίν βροντή; ψόφος ἀποσβεννυμένου πυρὸς ἐν νέφεσιν. ὥστε ὁ αὐτὸς λόγος ἄλλον τρόπον λέγεται καὶ ὡδὲ μὲν ἀποδείξεις συνεχῆς, ὡδὲ δὲ ὀρισμός. ἔτι ἐστίν ὅρος βροντῆς ψόφος ἐν νέφεσι· τοῦτο δ' ἐστὶ τῆς τοῦ τί ἐστίν ἀποδείξεως συμπέρασμα. ὁ δὲ τῶν ἀμέσων ὀρισμὸς θέσις ἐστὶ τοῦ τί ἐστίν ἀναπόδεικτος. ἔστιν ἄρα ὀρισμὸς εἰς μὲν λόγος τοῦ τί ἐστίν ἀναπόδεικτος, εἰς δὲ συλλογισμὸς τοῦ τί ἐστίν πῶσαι διαφέρων τῆς ἀποδείξεως· τρίτος δὲ τῆς τοῦ τί ἐστίν ἀποδείξεως συμπέρασμα.

413^a 16. νῦν δ' ὥσπερ συμπεράσμαθ' οἱ λόγοι...εἰσὶν] Aristotle means that true definitions are like a regular syllogism, so far as to contain a middle term corresponding to the cause in outward nature, but that in ordinary practice (*νῦν δὲ*) definitions are like mere conclusions which connect terms, but give no clue to the middle term which unites them.

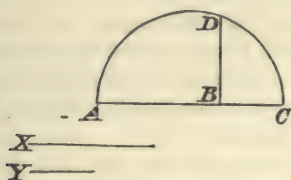
413^a 19. τετραγωνισμὸς μέσης εὐρεσις] Trendelenburg compares *Metaph.* B. 2, 996^b 19. To understand the illustration we must refer to Euclid II. 14 and VI. 13. Euclid in II. 14 proposes to describe a square that shall be equal to a given rectilineal figure (*A*), and after constructing the rectangle *BCDE* which is equal to *A* finds that by producing *BE* to *F* and making *EF=ED*, bisecting *BF* and extending *DE* to the circumference of a

circle drawn from G , the square of EH is equal to $BCDE$, and so to A .



The problem in VI. 13 is to find a mean proportional between two straight lines; and we find that by placing the two lines in one straight line, describing a semicircle on the whole line, and from the point where the two lines meet drawing a line to the circumference, a mean proportional, i.e. a line which stands to the one line in the same ratio as it itself stands to the other, is reached: so that

$$AB : BD :: BD : BC.$$



It will be observed that BD , which is the mean proportional between AB and BC , is also the side of the square equal to the rectangle $AB \cdot BC$.

§ 4. 413^b 2. καὶ γὰρ τὰ μὴ κινούμενα κ.τ.λ.] Themistius adds, ὥσπερ τὰ ὄσπρεα.

§ 8. 413^b 16. ὥσπερ γὰρ ἐπὶ τῶν φυτῶν] The meaning is, that just as plants shew the oneness and indivisibility of the vegetative functions, so insects shew the oneness of the sensitive and "orectic." These instances, in short, shew that it is not the case that the perceptive powers are in one part, the vegetative in another.

413^b 22. εἰ δ' αἰσθῆσιν, καὶ φαντασίαν καὶ ὄρεξιν] Freudenthal (p. 8) would omit the words καὶ φαντασίαν, because it would follow from them that all animals which possess sensation have φαντασία as well,—a result at variance with 415^a 10, οἷς δ' ἐκείνων ἕκαστον οὐ πᾶσι λογισμὸς ἀλλὰ τοῖς μὲν οὐδὲ φαντασία, and by III. 3, 428^a 9, 22, 24. And in denying, as in 428^a 11 Aristotle *implicitly* does (δοκεῖ), that the worm has φαντασία, Aristotle would seem to deviate from the present passage.

§ 10. 413^b 28. καθάπερ τινές φασιν] Plato in *Republic*, 436—441, and *Timaeus*, 69.

§ 12. 414^a 4. ἐπεὶ δὲ ᾧ ζῶμεν...διχῶς λέγεται] The introductory particle can with difficulty find an apodosis to which it is to be referred: and Trendelenburg proposes we should read ἔτι δὲ in order to clear up the clauses. Bonitz, *Aris. Stud.* II. 120, regards the final conclusion as arrived at in 413, ὥστε λόγος τις, as the result of three premisses. "The first premiss," he goes on, "gives expression to a fact of linguistic usage—this, viz. that under ᾧ ἐπιστάμεθα we can understand at once ἐπιστήμη and ψυχή, just as under ᾧ ὑγαίνομεν we can understand ὑγίεια or σῶμα. The second brings out the import of this use of language by shewing that the first of the two meanings denotes the form and notion, the second, the receptive substratum. [The counterpart of μὲν in the words ἡ μὲν ἐπιστήμη (*8) is not ἡ ψυχή δέ (*12), as the sense shews, but the clause is begun as if it were to be continued somewhat in the following fashion: τούτων δ' ἡ μὲν ἐπιστήμη τε καὶ ἡ ὑγίεια μορφή καὶ εἶδος τι καὶ λόγος καὶ οἶον ἐνέργεια, ἡ δὲ ψυχή καὶ τὸ σῶμα δεκτικόν, but the second half of the antithesis, instead of being stated co-ordinately, is included subordinately in τοῦ δεκτικοῦ, *10.] The third premiss finally maintains that the soul is that through which we live and think in the most ultimate manner (πρώτως); and the conclusion therefore follows that soul is the λόγος and εἶδος, rather than the ὕλη or ὑποκείμενον." This seems more satisfactory than to find with Pacius the apodosis in 414^a 8, τούτων δ' ἡ μὲν ἐπιστήμη. The force, of course, of πρώτως in 414^a 12 is to bring out the ultimate and fundamental position of the soul in life. We live and perceive by the body; but we cannot be said to do so πρώτως. Torstrik, it should be noticed, makes the apodosis begin with 414^a 12, ἡ ψυχὴ δὲ τοῦτο ᾧ ζῶμεν...πρώτως.

§ 14. 414^a 22. οὐχ ὥσπερ οἱ πρότερον] The Pythagoreans and such thinkers are intended. Cp. bk. I. c. 3, §§ 22, 23, 407^b 15.

§ 15. 414^a 28. φανερόν ἐκ τούτων] The same account of soul, i.e. has been arrived at by an *à posteriori* method (so to call it) as was in c. 1 arrived at by an *à priori*.

CHAPTER III.

The chief object of this chapter is to set forth the relation between the different faculties of soul, and especially to shew the way in which the possession of a higher faculty presupposes the possession of a lower. Sensation, it is shewn, in §§ 2, 3, is always accompanied by desire and appetite; and in § 5 the relation of the different powers to one another is compared to that subsisting between mathematical figures. The psychologist, accordingly, must not only give a general abstract definition of the soul: he must interpret this general conception into its particular manifestations.

§ 2. 414^b 5. οἷς δὲ ταῦτα, καὶ ἡ ἐπιθυμία] Cp. the previous chapter, 413^b 23, where almost identical expressions were used.

§ 3. 414^b 6. ἔτι δὲ τῆς τροφῆς αἰσθησιν ἔχουσιν] This, as I have tried to bring out in the translation, is an additional argument to shew that sensation is

accompanied by desire. The argument shortly is, that because all animals have a sense for food, they are necessarily subject to hunger and thirst—that is, a *desire* for food, whether solid or fluid.

414^b 9. τοῖς δ' ἄλλοις αἰσθητοῖς κατὰ συμβεβηκός] So Torstrik and Trend., but all the MSS. read τῶν δ' ἄλλων αἰσθητῶν. The old commentators explained the genitive as depending either on ἀφή or on ἐπιθυμία.

414^b 14. διασαφηνέον...ὑστερον] *De Sensu*, cap. 4.

§ 5. 414^b 25. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον...ἀφέντας τὸν τοιοῦτον] The passage would seem to be partly directed against the Platonic realism, and to mean that we can no more get a definition of soul apart from all reference to particular aspects of soul than we can of figure as an entire abstraction from particular figures. Thus, we may compare it with passages like that in *Eth.* II. 7 § 2, in which Aristotle expresses his preference for particulars over generalities. But the chief difficulty is about ἀφέντας τὸν τοιοῦτον. Philoponus takes it to mean that we should not be content with general definitions and take no account of the specific kinds and the definitions of these kinds. And he goes on to explain that the psychologist should over and above finding a general account of soul study also its particular forms just as the zoologist should have an idea, not only of the animal in general, but also of the particular kinds of animals, or as the geometrician should study figure, not only in the abstract, but also in its specific kinds. Pacius, on the other hand, takes τοιοῦτον to mean, not, as Philoponus, the specific definition, the account of the particular kind, but a definition of the general kind which has been given in the preceding chapters. "Inquit ridiculum esse si quis omissa ejusmodi definitione qualem nos supra attribuimus, i.e. quae attribuitur universali in multis, quaerat definitionem communem," i.e. definitionem ideae. But I am inclined to think that Philoponus gives the truer meaning. The forms of soul, Aristotle is saying, are as diverse as those of figure: and just as the abstract conception of figure resolves itself into the triangle and derivative figures, so the abstract conception of soul reduces itself to the specific kind of soul. No doubt, he adds, there is both in the case of figure and in the case of soul a common notion which applies to all the particular forms: but (and this seems to be the implicit assumption between εἰρημέναις ψυχαῖς and διὸ γελοῖον) while there is this general notion, it depends for its value on the particular forms to which it applies: and, therefore (διὸ), it is ridiculous to seek a common abstract definition unless we simultaneously construct a definition of the particular kinds of soul or figure.

415^a 12. ἕτερος λόγος] Kampe translates: *So ist das Verhältniss des Nuss ein anderes*: and Philoponus explains that the subject falls to the theologian. But the words need be no more than a reference to another Book (III.), just as ἄλλος λόγος in 419^a 9 and ἕτερος λόγος in 421^a 6.

CHAPTER IV.

The special analysis of soul is begun in this chapter by an account of the vegetative or nutritive faculties. But before explaining the nature of nutrition, &c. Aristotle shews how soul as the cause of body is at once its formal, its final, and its efficient cause, and then dealing closely with nutrition, proceeds to shew that soul is requisite as the regulative agent in receiving the *material* of nourishment.

§ 1. 415^a 19. *πρότεροι γὰρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι*] Themistius takes this to mean, that in the order of knowledge the exercise of a power is prior to the power itself: we first observe the action, and only in the second place come to recognise the power which underlies it. But it is more likely that Aristotle means that a mere *δύναμις*, as such, has no existence; that its real truth only displays itself in its realization, and that, therefore, when truly thought and metaphysically conceived, an *ἐνέργεια* precedes a *δύναμις*. Cp. *Meta.* Θ. 8, 1049^b 10; *πάσης δὲ τῆς τοιαύτης (δυνάμεως) προτέρα ἐστὶν ἢ ἐνέργεια καὶ λόγῳ καὶ τῇ οὐσίᾳ...τῷ λόγῳ μὲν οὖν ὅτι προτέρα δῆλον· τῷ γὰρ ἐνδέχεσθαι ἐνεργῆσαι δυνατόν ἐστι τὸ πρῶτως δυνατόν, οἷον λέγω οἰκοδομικὸν τὸν δυνάμενον οἰκοδομεῖν καὶ ὁρατικὸν τὸ ὁρᾶν καὶ ὁρατὸν τὸ δυνατόν ὁρᾶσθαι.*

§ 2. 415^a 27. *γένεσιν αὐτομάτην*] v. *Histor. Animal.* VI. 16, 570^a 2; *αἱ δ' ἐγγέλους οὗτ' ἐξ ὀχείας γίνονται οὗτ' ὀστοκοῦσιν, οὐδ' ἐλήφθη πώποτε οὔτε θορόν ἔχουσα οὐδεμία οὗτ' ᾤα.*

415^a 2. *τὸ δ' οὐ ἔνεκα διπλόν, τὸ μὲν οὖν, τὸ δὲ ᾧ*] These words, which occur again in 415^b 20, are found in all the MSS, and are recognised by all the commentators in a way which makes it difficult to resort to the otiose expedient of ejecting them from the present passage. Pacius treats them here as answering a supposed objection, to the effect that the animal procures not *τοῦ θείου ἔνεκα* but for the sake of conservation. The answer then is, that an end is twofold. "*Alter qui finis appetitus ut aedificationis finis est domus, alter vero cui ille finis paratur sicut aedificationis finis est ille qui domum est inhabitaturus.*" And this seems to give a fairly satisfactory view of the meaning here. Nor are the two passages mere repetitions of the same truth. For while in the first passage Aristotle would seem to mean that the term end is to be used only in *one* of the two senses which it bears, in the second passage he would appear to imply that the soul is end in *both* its meanings, and thus while we have *μὲν, δὲ* in the former passage, we have *τε, καὶ* in the second.

The distinction itself is that between an end as objective, a point *at which* something aims—*τὸ μὲν οὖν*—and an end as subjective, a thing or person *for which* something exists—*τὸ δὲ ᾧ*. Themistius illustrates the distinction from *Ethics*, where the end may be either, (1) happiness, or (2) the individual: *διπλόν τὸ τέλος, ὡς μὲν τὸ ὁ εὐδαιμονία, ὡς δὲ τὸ ᾧ αὐτὸς ἕκαστος αὐτῷ*. Cp. further *Meta.* Α. 7, 1072^b 1 (Bonitz, p. 499) and *Physics*, II. 2,

194^a 35, διχῶς γὰρ τὸ οὐ ἕνεκα εἴρηται δ' ἐν τοῖς περὶ φιλοσοφίας, and *De Gen. Anim.* II. 6, 742^a 22.

415^b 6. διαμένει οὐκ αὐτὸ ἀλλ' οἶον αὐτό] Cp. *De Gen. An.* II. 1, 731^b 30, ἐπεὶ γὰρ ἀδύνατος ἡ φύσις τοῦ τοιούτου γένους αἰδῖος εἶναι, καθ' ὃν ἐνδέχεται τρόπον, κατὰ τοῦτόν ἐστιν αἰδῖον τὸ γινόμενον. ἀριθμῶ μὲν οὖν ἀδύνατον, ἡ γὰρ οὐσία τῶν ὄντων ἐν τῷ καθ' ἕκαστον τοιοῦτον δ' εἴπερ ἦν, αἰδῖον ἂν ἦν, εἶδει δ' ἐνδέχεται. διὸ γένος αἰεὶ ἀνθρώπων καὶ ζώων ἐστὶ καὶ φυτῶν.

§ 6. 415^b 25. μετέχει ψυχῆς] This reading I have accepted from Torstrik, following ETV. It is a further confirmation of it that in 27 for κοινωνεῖ ζωῆς W reads μετέχει ψυχῆς. The result shews us, as Torstrik says, how the readings of one MS. were used to correct another.

§ 7. 415^b 28. Ἐμπεδοκλῆς] Trend. refers to Theophrastus: *De Causis Plantarum*, I. 13: ἐν γάρ τι τὸ γεννῶν καὶ οὐχ ὥσπερ Ἐμπεδοκλῆς διαιρεῖ καὶ μερίζει, τὴν μὲν γῆν εἰς τὰς ρίζας, τὸν δ' αἰθέρα εἰς τοὺς βλαστούς, ὡς ἑκάτερον ἐκατέρου χωριζόμενον, ἀλλ' ἐκ μιᾶς ὕλης καὶ ὑφ' ἐνὸς αἰτίου γεννῶντος.

§ 8. 416^a 11. τῶν σωμάτων ἢ τῶν στοιχείων] Torstrik regards the words ἢ τῶν στοιχείων as a mere interpretation, and places them accordingly in brackets.

416^a 14. συναίτιον...οὐ μὴν ἀπλῶς γε αἴτιον] With this distinction between an actual, unconditional cause and a mere concomitant condition of existence cp. *Metaph.* Δ. 5, 1015^a 21, ἀναγκαῖον λέγεται οὐ ἄνευ οὐκ ἐνδέχεται ζῆν ὡς συναιτίου οἶον τὸ ἀναπνεῖν καὶ ἡ τροφή τῷ ζῳῷ ἀναγκαῖον· ἀδύνατον γὰρ ἄνευ τούτων εἶναι, and see also *De Gen. Anim.* 783^b 21, διὸ καὶ τῶν φυτῶν τὰ λιπαρὰ αἰείφυλλα μᾶλλον. ἀλλὰ περὶ μὲν τούτων ἐν ἄλλοις τὸ αἴτιον λεκτέον. καὶ γὰρ ἄλλα συναίτια τοῦ τοιούτου πάθους αὐτοῖς: *Eth. Nic.* III. 5, 1114^b 23, τῶν ἔξεων συναίτιοι πῶς αὐτοὶ ἐσμεν. The distinction occurs frequently in Plato: e.g. *Tim.* 46 D, δοξάζεται δὲ ὑπὸ τῶν πλείστων οὐ ξυναίτια ἀλλ' αἴτια εἶναι τῶν πάντων.

§ 12. 416^b 11. ἡ τροφή πρὸς ἔμψυχόν ἐστι καὶ οὐ κατὰ συμβεβηκός] Themistius paraphrases as follows: τὸ ἔμψυχον ἂν εἴη σῶμα τὸ τρεφόμενον ἢ ἔμψυχον καὶ οὐχ ἢ λεῦκον ἢ μέλαν, ὥστε καὶ ἡ τροφή πρὸς τὸ ἔμψυχόν ἐστι καὶ οὐ πρὸς τὰ συμβεβηκότα τῷ τοιούτῳ σώματι. Susemihl, *Jahresbericht*, IX. 351, suggests that we should either introduce ἢ ἔμψυχόν after ἔμψυχον or omit καὶ before οὐ κατὰ συμβεβηκός.

§ 13. 416^b 16. ἥδη γάρ ἐστιν αὐτοῦ ἡ οὐσία] So I have determined to read with STVWX. Trend. and Bekker read αὐτῇ with EL: and Torstrik reads γὰρ ἔστιν, supplying τὸ τρεφόμενον, and regarding αὐτῇ ἡ οὐσία as unnecessary.

§ 15. 416^b 23. ἐπεὶ δὲ ἀπὸ τοῦ τέλους] Torstrik supposes that this sentence should be read immediately after οὐ δύναται εἶναι. But the only real reason for such a transposition is, that the words ἔστι δὲ ᾧ τρέφεται διττόν go back to the words in line 23. It is however no unusual thing in Aristotle to find that a sentence refers to something separated by some lines from the passage in which the sentence occurs. Besides, here it would seem that the clause under discussion is intended to signify that though three elements are involved in the action of the soul as nutritive, still it is usual to designate everything by reference to its end: and this end being generation, the soul in question should be called generative.

416^b 24. τέλος δὲ τὸ γεννῆσαι οἷον αὐτό] Cp. *Pol.* I. 2, 1252^a 29.

§ 16. 416^b 25. ἔστι δὲ ᾧ τρέφεται διττόν] Themistius explains the words as referring, on the one hand, to the δύναμις θρεπτική, which is συμφυής, and corresponds to the hand that steers, and on the other hand to the θερμὸν ἔμφυτον which is like an ὄργανον supplied ἔξωθεν, and corresponds to the rudder. So also Alexander as quoted by Philoponus, τὸ γὰρ ᾧ τρέφει τὸ διττόν οὐκ ἐπὶ τῆς τροφῆς ληπτέον, φησὶ νῦν, ἀλλὰ διττὸν λέγει τὴν θρεπτικὴν ψυχὴν καὶ τὸ ἔμφυτον θερμὸν, ὧν τὸ μὲν ἔστιν ἀκίνητον ἡ θρεπτικὴ δύναμις, αὕτη γὰρ οὐ κινουμένη κινεῖ, τὸ δὲ ἔμφυτον θερμὸν κινεῖ καὶ κινούμενον. But Trendelenburg, following Simplicius, understands the two to be, *first*, heat innate in the body and moving the nutriment (κινεῖν μόνον), and, *secondly*, nutriment, which while it is moved by the heat, acts in turn on the body which is being nourished (κινεῖν καὶ κινούμενον).

416^b 31. ἐν τοῖς οἰκείοις λόγοις] The reference is probably, as Simplicius suggests, to the *De Generatione et Corruptione*. This, at any rate, is simpler than to suppose with Heitz that the allusion is to a *lost* work, περὶ τροφῆς, which Heitz thinks is referred to in *De Somno*, 3, 456^b 4, εἴρηται δὲ περὶ τούτων ἐν τοῖς περὶ τροφῆς: and in *De Part. Animal.* II. 3, 650^b 11, ὃν δὲ τρόπον λαμβάνει ἐξ αὐτοῦ (τοῦ αἵματος) τὰ μόρια τὴν αὔξησιν, ἔτι δὲ περὶ τροφῆς ὅλως, ἐν τοῖς περὶ γενέσεως καὶ ἐν ἐτέροις οἰκειότερόν ἐστιν διελθεῖν. That Aristotle should have known a section of what we call altogether by the name of *De Generatione* as a treatise περὶ τροφῆς would be analogous to the numerous passages in *De Coelo* in which the *Physics* are referred to now as the dissertation on principles, now on movement, and in one place on time; v. *De Coelo*, I. 6, 274^a 21, ἐν τοῖς περὶ τὰς ἀρχάς, III. 4, 303^a 23, εἴρηται πρότερον ἐν τοῖς περὶ χρόνον καὶ κινήσεως.

CHAPTER V.

The general character and conditions of sense-perception constitute the subject of this chapter; and the writer would seem especially to intend to criticise and amend the popular analysis of the process. This popular analysis (δοκεῖ) regards sense as a form of transformation, and as involving movement and a passive impression (πάσχει). But now (line 35) if sense-perception be such a passive impression, we may remember the doctrine of the schools (φασὶ δὲ τινες) that like is affected or impressed by like: and then the difficulty presents itself, why do the senses not perceive themselves (417^a 2)? why, if sense is a purely physiological process of being impressed, like by like, does not the material organ of sense perceive the materials of which sight is composed? The explanation of this difficulty occupies § 2, and, so far as that section goes, the writer contents himself with shewing that sense is not an ever-active process, but simply a capacity dependent for its exercise upon an object which lies outside itself, much in the same way as the combustible cannot display its action without an actual fire. Thus then without drawing any distinction between the different words (πάσχειν,

κινεῖσθαι, ἐνεργεῖν), which all treat sense as a physiological process, we find that the conditions of receiving an impression are that the object which communicates the impression should be active (ποιητικόν) and actually realized (ἐνεργεία ὄν). And thus we see why the senses cannot perceive themselves—the same thing cannot at once act as δύναμις and ἐνέργεια; and we further see that the popular account of the nature of impression must be altered. The real truth is, that an impression is caused both by like and unlike; the object is unlike the subject before perception, it becomes assimilated to it in the process.

So far, then (417^a 21), the explanation of perception as a mere passive impression has held its ground—it does not involve the absurdity of the senses perceiving themselves. But Aristotle undertakes a further discussion of the matter. And this mainly consists in shewing the different senses in which the terms δύναμις and ἐνέργεια, on the one hand, πάσχειν, on the other, can be used. Thus § 4, a δύναμις may mean either a generic possibility (of man to attain to knowledge), or an acquired aptitude of a man to apply knowledge which he possesses. Similarly, § 5, πάσχειν may mean either a “destruction by the opposite” or a “preservation of the possible by the actual.” But this last kind of impression is not to be rightly called an impression or transformation (ἀλλοίωσις) or two forms of the conception must be recognised. Applying, then (§ 6), this distinction to αἴσθησις, we have to note that the first form of such ἀλλοίωσις, the mere adaptability for knowledge, is the work of the parent in generation; the second form, which puts a man in the actual possession of the elements of knowledge, is dependent on an external agent. And thus, if sense be in some respects like thought, there is the great difference that while sense is obliged to find its objects from outside, thought finds them within itself. The popular psychology is thus (§ 7) manifestly insufficient: but the words impression and transformation are so much in vogue (κυρίως ὀνόμασιν) that we shall continue to use them; and simply remember that the faculty of sense is that potentially which the object is actually, and that thus, while the faculty begins by being unlike its object, it ends by being like it.

§ 1. 416^b 34. δοκεῖ γὰρ ἀλλοίωσίς τις εἶναι] ἀλλοίωσις is a qualitative kind of movement, of such a kind that an alteration or transformation of the object is the result. It is explained in *Metaph.* Δ. 1, 1069^b 12, as a μεταβολή κατὰ τὸ πάθος, and in N. 1, 1088^a 32 it is described as κατὰ τὸ ποίον. More fully it is said, *De Gen. et Corrupt.* I. 4, 319^b 10, ἀλλοίωσις μὲν ἐστὶν ὅταν ὑπομένοντος τοῦ ὑποκειμένου, αἰσθητοῦ ὄντος, μεταβῇ ἐν τοῖς αὐτοῦ πάθεσιν ἢ ἐναντίοις οὖσιν ἢ μεταξύ οἷον τὸ σῶμα ὑγιαίνει καὶ πάλιν κάμνει ὑπόμεινον γε ταῦτο: when on the other hand, there is an entire change as when air is formed from water, γένεσις ἤδη τὸ τοιοῦτον. Cp. also *Phys.* VII. 2, § 12, ἀλλοιοῦνται γὰρ πῶς καὶ αἱ αἰσθήσεις. ἢ γὰρ αἴσθησις ἢ κατ' ἐνέργειαν κίνησις ἐστὶ διὰ τοῦ σώματος πασχούσης τι τῆς αἰσθήσεως.

417 I. εἰρήκαμεν ἐν τοῖς καθόλου λόγοις περὶ τοῦ ποιεῖν καὶ πάσχειν] The old commentators referred the words to Aristotle's work, *Περὶ γενέσεως καὶ φθορᾶς*: and I. 7 is viewed as corresponding to the present allusion (323^b,

περὶ δὲ τοῦ ποιεῖν καὶ πάσχειν λεκτέον ἐφεξῆς). But Trendelenburg doubts whether the question is there discussed at sufficient length to justify Aristotle in thus appealing to it: and Heitz (*Verlorene Schriften*, p. 80) thinks the reference is to a lost work of Aristotle's, entitled, in the list which Diogenes gives us, as περὶ τοῦ πάσχειν ἢ πεπονθέναι. The same work, he thinks, is intended in *De Gen. An.* 768^b 22, εἴρηται δὲ περὶ αὐτῶν ἐν τοῖς περὶ τοῦ ποιεῖν καὶ πάσχειν διακρισμένοις.

§ 2. 417^a 3. διὰ τί ἄνευ τῶν ἔξω οὐ ποιοῦσιν αἰσθῆσιν] It is worth while remarking that Themistius thinks that Aristotle is not only explaining why the sense organs, while made up of material substances, do not perceive themselves, but touching also on the view of those who say that the soul can perceive though separated from the body. δοκεῖ δέ μοι ταύτην μὴ ἀπλῶς κινεῖν τὴν ἀπορίαν ταύτην Ἀριστοτέλης ἀλλ' ὡς καθαπτομένην μάλιστα τῶν καὶ χωρισθεῖσαν τὴν ψυχὴν τοῦ σώματος αἰσθητικὴν εἶναι λεγόντων. εἰ γὰρ οἷα τε καὶ χωρὶς τῶν ὀργάνων αἰσθάνεσθαι, διὰ τί οὐχὶ καὶ αὐτῶν αἰσθάνεται τῶν ὀργάνων;

417^a 13. ὁμοίως δὲ καὶ τὸ αἰσθητόν] So Torstrik would seem rightly to have amended the passage on a hint from Alexander: Ἀπορ. κ. Δυσ. 155, 20 (Sp.) λαβὼν δὲ τὸ διχῶς λέγεσθαι τὸ αἰσθάνεσθαι (καὶ γὰρ δυνάμει καὶ ἐνεργείᾳ) ἔλαβεν τὸ τῆς αἰσθήσεως τὴν μὲν εἶναι δυνάμει, τὴν δὲ ἐνεργείᾳ, ὁμοίως δὲ καὶ τὸ αἰσθητόν. All other MSS. and editions read ὁμοίως δὲ καὶ τὸ αἰσθάνεσθαι, which, as Trend. says, *mera est repetitio*.

§ 3. 417^a 15. τοῦ αὐτοῦ ὄντος τοῦ πάσχειν...καὶ τοῦ ἐνεργεῖν] The point to be observed is, it would seem, that κινεῖσθαι is the middle term by which πάσχειν is assimilated to ἐνεργεῖν. Movement is involved at once in being affected and in being active, and so far the two terms are identical.

417^a 17. καθάπερ ἐν ἐτέροις εἴρηται] Cp. *Phys.* III. 2, 201^b 31: VIII. 5, 257^b 8.

417^a 18. κινεῖται ὑπὸ τοῦ ποιητικοῦ] Pacius illustrates by saying that wood which is potentially fire can be actually kindled only by fire which really exists. "Similiter itaque sensus cum sit potestate deducitur in actum per suum objectum quod actu est."

§ 4. 417^a 21. διαμετέον δὲ καὶ περὶ δυνάμεως καὶ ἐντελεχείας] This would seem to be the antithesis to πρῶτον μὲν οὖν ὡς τοῦ αὐτοῦ ὄντος τοῦ πάσχειν, κ.τ.λ. (^a15), and to mean that, whereas the previous lines had used these various words as equivalent, and without taking any account of the modifications they admit (ἀπλῶς), it now becomes necessary to distinguish between the different senses in which we may understand δύναμις and ἐντελέχεια, the general expressions under which they fall.

Altogether, it is to be observed, three forms or phases of capacities are mentioned: 1st, the remote implicit capacity (of man generically to have knowledge); 2nd, the development of this implicit capacity, apart however from its application (of a man who has acquired some branch of knowledge); and 3dly, the active expression of this knowledge to the particular problem.

417^a 30. ἀμφότεροι μὲν οὖν οἱ πρῶτοι κατὰ δύναμιν ἐπιστήμονες] Torstrik

unnecessarily conjectures, ἀμφότεροι μὲν οὖν οἱ κατὰ δύναμιν ἐπιστήμονες ἐνεργείᾳ γίνονται ἐπιστήμονες.

417^a 32. ἐκ τοῦ ἔχειν τὴν αἴσθησιν ἢ τὴν γραμματικὴν] Torstrick would read τὴν ἀριθμητικὴν in place of αἴσθησιν, following the commentary of Themistius. But αἴσθησιν makes perfectly good sense, and Themistius, we may suppose, merely expanded γραμματικὴ by adding on an additional illustration in ἀριθμητικὴ.

§ 5. 417^b 2. οὐκ ἔστι δ' ἀπλοῦν οὐδὲ τὸ πάσχειν] The different senses in which an object may be said to πάσχειν are

(1) Destruction: so e.g. wood πάσχει when it *is* burnt,

(2) Perfection: so e.g. a man πάσχει when he *is* taught.

But such *passio perfectiva* may be again twofold: either from mere capacity, pure *potentia* to actualization, simple *actus*, or again from implicit actualization to explicit, from *actus primus* to *actus secundus*.

417^b 15. τὴν τε ἐπὶ τὰς στερητικὰς διαθέσεις] For the distinction between διάθεσις (a passing phase) and ἔξις (a permanent established state), see especially *Categ.* c. 8, 8^b 28, διαφέρει ἔξις διαθέσεως τῷ πολυχρονιώτερον εἶναι καὶ μονιμώτερον.

§ 6. 417^b 17. ὑπὸ τοῦ γεννῶντος] That is, the individual is by birth provided with that implicit capacity for learning and knowing things, which will enable him to proceed from the mere capacity of knowledge which is practical ignorance to that possession of knowledge which, as contrasted with its antecedent, is a στερητικὴ διάθεσις. Cp. Themistius, p. 103: ἐπὶ τῆς αἰσθήσεως τὸ μὲν σπέρμα τοῦ ζῶου καὶ τὸ ὄν τὴν πρώτην μεταβάλλει μεταβολὴν καθ' ἣν γίνεται αἰσθητικόν. ὅταν δὲ γένηται ζῶον ἔχει ἥδη τὴν ἔξιν, ἐλλείπει δὲ αὐτῷ ἡ ἐνέργεια.

417^b 23. ταῦτα δ' ἐν αὐτῇ πῶς ἐστι τῇ ψυχῇ] Cp. *De An.* III, 4, 429^a 27.

417^b 26. ὁμοίως δὲ τοῦτ' ἔχει καὶ ταῖς ἐπιστήμας ταῖς τῶν αἰσθητῶν] Themistius illustrates: ὡς χαλκευτικῇ μὲν ὁ χαλκός, οἰκοδομικῇ δὲ οἱ λίθοι.

417^b 29. καιρὸς γένοιτ' ἂν καὶ εἰσαυθίς] It is difficult to say to what it is the writer here alludes: but the reference is most probably to the third and fourth chapters of the Third Book.

CHAPTER VI.

The different senses in which an object of sense may be spoken of as either special (ἴδιον), or common (κοινόν), or incidental (κατὰ συμβεβηκός), occupy the writer in this chapter. On the subject, see the Introduction, p. lxiii., and cp. *De An.* III, 1, 425^a 15—30, and *De Sensu*, 4, 442^b 5.

§ 2. 418^a 11. λέγω δ' ἴδιον] Cp. Plato, *Theaetetus*, 184 E, ἢ καὶ ἐβελήσεις ὁμολογεῖν ἃ δι' ἐτέρας δυνάμεις αἰσθάνει ἀδύνατον εἶναι δι' ἄλλης ταῦτ' αἰσθῆσθαι.

§ 3. 418^a 18. τὰ γὰρ τοιαῦτα...κοινὰ πάσαις] Simplicius somewhat pedantically points out that it is incorrect to say that the properties in question are

common to *all* the senses: μεγέθους γὰρ καὶ σχήματος μόναι ἀντιλαμβάνονται ὕψις καὶ ἀφή: and Themistius writes, κοινὰ δὲ πλείωνον: κίνησις, however, Themistius adds, entering into all our perceptions. But Philoponus seeks to shew that the different κοινὰ are really with very few exceptions shared by all the different senses. He begins by discussing the apparent contradiction, that while here ἀριθμὸς is regarded as a perception of the senses, it is in the *Physics*, in combination with time, referred to reason. πῶς οὖν ἐκεῖ μὲν τὸν νοῦν μόνον εἶπεν ἀντιλαμβάνεσθαι τοῦ ἀριθμοῦ ἐνταῦθα δὲ τὴν αἴσθησιν. λέγομεν οὖν ὅτι αὐτοῦ μὲν τοῦ εἶδους τοῦ ἀριθμοῦ ὁ νοῦς ἐστὶν ἀντιληπτικός· ἡ μὲν τοι αἴσθησις, οὐχ ὡς τοσοῦδε ἀριθμοῦ ἀντιλαμβάνεται, ἀλλ' ἀπλῶς ὡς πεπληθυσμένου ἢ μονάδος· καὶ ὡς ἐλάττωτος πλήθους ἢ πλείονος· ὁ δὲ νοῦς ἐστὶν ὁ διὰ τῆς αἰσθήσεως καὶ τὸ τοῦ ἀριθμοῦ εἶδος ἐπιγινώσκων. ὅτι δὲ καὶ ἡ ἀκοὴ τοῦ ἀριθμοῦ τούτου ἀντιλαμβάνεται πρόδηλον. And he goes on to note how the different senses are enabled to distinguish between sensations, smell, for instance, between an agreeable and a disagreeable scent, and thus implicitly to recognise number. And finally he concludes, ἐστὶν οὖν ἀριθμὸς μὲν πάσαις αἰσθητός. στάσις δὲ καὶ κίνησις ἀνεγενέσεως ταῖς λοιπαῖς· σχῆμα δὲ καὶ μέγεθος ταῖς τρισὶν ὕψει, ἀκοῇ, ὁσφρήσει.

CHAPTER VII.

Beginning now his analysis of the single senses, Aristotle takes up sight, and discusses its object or ἴδιον αἰσθητόν. This he finds is colour, and colour he explains by reference to a pellucid substance of which the "actualization" constitutes light. This light is the condition of colour being seen. Cp. the Introduction, p. lxx.

§ 1. 418^a 28. δῆλον δὲ ἔσται ὁ λέγομεν προελθοῦσι] The reference is to § 4, 419^a 2, where this ἀνώνυμον is explained to be τὰ πυρώδη φαινόμενα καὶ λάμποντα.

418^b 1. τοῦ κατ' ἐνέργειαν διαφανούς] The actually pellucid is, of course, any pellucid substance, such as air or water, when illumined by light.

§ 2. 418^b 9. ἐν τῷ αἰδίῳ τῷ ἄνω σώματι] By this upper substance we must understand the upper heavens of which the *De Coelo* speaks. Thus in *De Coelo*, c. 2, 269^b 30, Aristotle shews that over and above the substances we see around us, there must be another of diviner and more eternal nature: ἐκ δὲ τούτων φανερόν ὅτι πέφυκε τις οὐσία σώματος ἄλλη παρὰ τὰς ἐνταῦθα συστάσεις θειότερα καὶ προτέρα τούτων ἀπάντων. And this πρῶτον τῶν σωμάτων has been called αἴθρη from αἰεθεῖν (of course, a mistaken derivation); διόπερ ὡς ἐτέρου τινὸς ὄντος τοῦ πρῶτου σώματος παρὰ γῆν καὶ πῦρ καὶ αἶρα καὶ ὕδωρ, αἰθέρα προσωνόμασαν τὸν ἀνωτάτω τόπον, ἀπὸ τοῦ θεῖν αἰετὸν τὸν αἰδιον χρόνον θέμενοι τὴν ἐπωνυμίαν αὐτῷ. (270^b 22).

418^b 10. δυνάμει δὲ ἐν τῷ τούτ' ἐστί] Torstrick would punctuate δυνάμει δὲ, ἐν τῷ, which would give the meaning that where the pellucid or light is present, there darkness is also potentially present.

418^b 14. οὐθ' ὅλως σῶμα] After σῶμα and before οὐδ' ἀπορροή Torstrik would insert the words of line 17, οὐδὲ γὰρ δύο σώματα, κ.τ.λ.

418^b 15. οὐδ' ἀπορροή σώματος] This, as Trend. remarks, is directed against Plato's doctrine as expressed in the *Timaeus*, 67 C, ἃ σύμπαντα μὲν χροάς ἐκαλέσαμεν, φλόγα τῶν σωμάτων ἐκάστων ἀπορρέουσιν, ὅψει σύμμετρα μόρια ἔχουσιν πρὸς αἴσθησιν.

§ 3. 418^b 20. καὶ οὐκ ὀρθῶς Ἐμπεδοκλῆς] Empedocles, it may be worth while to remark, was nearer the truth than Aristotle, in so far as he had conceived of light as *travelling* and existing long before it reached our eyes. Cp. *De Sensu*, 6, 446^a 26.

418^b 22. καὶ γυγνομένου ποτὲ μετὰ τῆς γῆς] E and V here read *τεινομένου*, perhaps, as Torstrik suggests, a word Empedocles himself had used. It is in favour of this reading that in *De Sensu*, 2, 438^a 25, vision is said ἀποτείνεσθαι μέχρι τῶν ἀστρον.

§ 4. 419^a 3. τὰ πυρώδη φαινόμενα] Cp. *De Sensu*, 2, 437^b 6: τὸ γὰρ λεῖον πέφυκεν ἐν τῷ σκότει λάμπειν, οἷον κεφαλαὶ ἰχθύων τινῶν καὶ ὁ τῆς σπηλίας θόλος. Prof. Chandler (*Suggestions and Emendations*, 1866) makes the not improbable suggestion that for κέρας in line 5 we should read κρέας, adding that "flesh when putrescent is often luminous in the dark."

419^a 6. δι' ἣν μὲν οὖν αἰτίαν ταῦτα ὁράται ἄλλος λόγος] Bonitz thinks the reference is to *De Sensu*, 2, 437^b 5.

§ 9. 419^a 32. τὸ δὲ μετὰ ψόφων μὲν ἀήρ, ὁσμῆς δ' ἀνώνυμον] Torstrik, from the paraphrase of Themistius, conjectures: τὸ δὲ μετὰ ψόφον μὲν καὶ ὁσμῆς ἀήρ τε καὶ ὕδωρ· τὸ δὲ κοινὸν ἀνώνυμον· κοινὸν γὰρ δὴ τι πάθος, κ.τ.λ. He objects that it is not correct to say τὸ δὲ μετὰ ψόφων μὲν ἀήρ, because in line 18 of the next chapter, water is added—ἔτι ἀκούεται ἐν ἀέρι καὶ ὕδατι. But since Aristotle in the passage in question after καὶ ὕδατι adds ἀλλ' ἦττον, it is not difficult to see why he should in our present passage have confined the media to air solely, and in fact the eighth chapter makes air prominent as the medium of sound. Next, says Torstrik, it is ridiculous to speak of the medium of smell as ἀνώνυμον, as some animals (421^b 8—13) smell in air, others in water—*quae elementa*, Torstrik adds, *non carent, opinor, nomine*. But the point, of course, is that language provides no one term by which to describe the quality *common* to air and water in virtue of which they transmit odour. The successors of Aristotle here improved upon their master, and invented, we learn from Themistius, the word διόσμον to describe the common characteristic of air and water which enables it to act as medium for smell, just as they used the word διηχέες to denote the medium of sound.

419^b 1. ἀλλ' ὁ μὲν ἄνθρωπος—ἀδυνατεῖ ὁσμάσθαι] Torstrik objects that this sentence is without a second corresponding clause, and therefore adds from Themistius, τὰ δὲ ἔνυδρα ὁσμάται καὶ μὴ ἀναπνέοντα.

419^b 3. νῦν δὲ πρῶτον περὶ ψόφον καὶ ἀκοῆς διορίσωμεν] Torstrik, in order to remove the awkwardness of πρῶτον, would here read, μετὰ δὲ ταῦτα λεκτέον περὶ ἀκοῆς καὶ ὁσφρήσεως, καὶ πρῶτον μὲν περὶ ψόφον καὶ ἀκοῆς διορίσωμεν.

CHAPTER VIII.

Hearing is the subject of this chapter, and the writer shews that sound is due to the contact of two bodies in air (§ 3). An echo is explained as due to repercussion of sound (§ 4), and air is shewn to be the vehicle of hearing (§ 5, 6), the outer movement transmitting itself along a continuous current to the air within the ear. The different qualities of sound are shewn (§ 8) to be due to the different excitations transmitted by the air. Voice is towards the end of the chapter (§ 9) distinguished from mere sound, and is explained, as due to inhaled air struck by the *ψυχή* of the throat (§ 11) against the windpipe.

§ 2. 419^b 10. *πληγὴ γάρ ἐστιν ἡ ποιούσα*] Cp. Plato, *Tim.* 67 B: *ὅλως μὲν οὖν φωνὴν θῶμεν τὴν δι' ὧτων ὑπ' αἰέρος ἐγκεφάλου τε καὶ αἵματος μέχρι ψυχῆς πληγὴν διαδιδομένην*. With *τινος* in the preceding sentence Chandler would supply *πλήττοντος*.

419^b 18. *ἐτι ἀκούεται ἐν αἰέρι καὶ ὕδατι, ἀλλ' ἦττον*] This *ἀλλ' ἦττον*, Torstrik thinks, could not have been written by Aristotle. The writer, he supposes, wished to say that sound was heard less perfectly in water than in air: he ought therefore to have written, *ἐτι ἀκούεται ὥσπερ ἐν τῷ αἰέρι οὕτω καὶ ἐν ὕδατι ἀλλ' ἦττον*. But, Torstrik continues, the whole opinion is foreign to this passage, as it contributes no way to the point which Aristotle had taken to demonstrate, viz. that the *μεταξύ* is not *κύριον* τοῦ *ψόφου*. Torstrik would accordingly read, *ἐτι ἀκούεται μὲν ἐν αἰέρι καὶ ὕδατι, οὐκ ἔστι δὲ ψόφου κύριος ὁ αἶρ οὐδὲ τὸ ὕδωρ*.

§ 3. 419^b 24. *ὥσπερ ἂν εἰ σωρὸν ἢ ὄρμαθὸν ψάμμου τύπτωι τις φερόμενον ταχύ*] Aristotle has been explaining that sound always involves a blow, a something striking and a something struck. To make sound, however, to result from this, air is necessary: only, air is not the only condition (line 19); the bodies must be brought into contact with one another and with the air. To allow this, then, to happen, the air must not be allowed to disperse; the bodies must be brought together so quickly that the air does not have time to dissipate. And now (line 24) he illustrates this from a line of sand. Just as one would have to strike that with all rapidity in order to anticipate the dispersion of its particles, so similarly with the air. Cp. Themistius, p. 116, who says that whips thus make a noise by striking the air, *κἂν τῇ ταχυντῇ προλαμβάνουσαι αὐτοῦ τὴν θρίψιν, ὥσπερ καὶ εἰ ἄμμου σωρὸν φερόμενον παῖσοι τις προλαμβάνων τῇ πληγῇ τὴν φοράν*. Pacius illustrates by a bladder filled with air, which makes a noise if suddenly compressed, but does not do so if the air is allowed to go slowly out.

§ 4. 419^b 25. *ἡχὼ δὲ γίνεται*—420^a 19, *ὀρισμένον τὸν αἶρα*] Torstrik devotes a note of seven pages to shewing that this passage as it stands is full of corruptions, interpolations, repetitions and inconsistencies. The whole passage, he points out, consists of two halves; of which the first discusses the nature of echo, and extends from 419^b 25 to 420^a 2; while the second explains

the character of the congenital air which is confined within the cavity of the tympanum.

419^b 25. ἡχώ δὲ γίνεται... ὥσπερ σφαῖρα] Torstrik here objects that the simile of a ball does not correspond with the description which has preceded: *nam ludentium pila non ab aere repercutitur sed ab ipso muro*: and he omits in consequence the words ἀπὸ τοῦ with the codices SUVX. But Aristotle, it is to be observed, says nothing about a wall: he simply compares the rebound of sound which produces an echo to the rebound of a ball: and generally it may be remarked a simile is not intended to be an exact reproduction of every circumstance in that which it illustrates. In confirmation of his view, Torstrik refers to the *Problems* 901^a 16 where an echo is described as that ἣ γίνεται πληγέντος τοῦ τοιοῦτου πρὸς τι στερεόν from which he thinks it is evident that it is not from air, but from a solid body that air is driven back. He is disturbed however by the fact that at the close of this very passage codex Y reads ἀπὸ γὰρ τοῦ αἵρος ἀνακλᾶται τοῦ ἐν τῷ κοίλῳ, οὐκ ἀπὸ τοῦ κοίλου. This however he explains is easily seen to be an interpolation: and the same remark applies to the phrase as repeated in 904^b 27, even although in this latter 'interpolation' all the MSS. *conspirant*. Similarly in 899^b 18 he detects a passage inconsistent with Aristotle's true views.

Torstrik's note is an instance of the misleading effect of a simile. He has got so imbued with the idea of a ball rebounding from a wall that he is unable to think of an echo in any other sense, and has failed to see that ὥσπερ σφαῖρα applies simply to ἀπωσθῇ and has nothing to do with the other concomitants of an echo. Themistius explains the passage quite clearly: ἡχώ δὲ γίνεται ὅταν ὁ πλεγεις ἀπὸ ὑπὸ τοῦ ψοφήσαντος ἢ φωνήμαντος προσπεσῶν στερεῷ τε καὶ λείῳ καὶ ἐν ὄντι διὰ τὸν τόπον τὸν ὀρίζοντα αὐτὸν καὶ κωλύοντα θρύπτεσθαι εἰς τοῦπίσω πάλιν ἀποπάλλεται, ὥσπερ καὶ σφαῖρα. The compression of the air is not merely, as Torstrik thinks, the *condition* of the rebound: but the waves of air which constitute a sound meet a body of air confined by some material structure and rebound from this air.

419^b 33. ἡ τὸ φῶς ὀρίζομεν] Torstrik reads φ in place of ἡ, on the ground that Aristotle is talking not of things themselves but of their definition—ὀρίζομεν τὸ φῶς τῷ σκιᾷ ποιεῖν.

§ 5. 419^b 33. τὸ δὲ κενὸν ὀρθῶς λέγεται... ποιῶν ἀκούειν] Here, Torstrik thinks, we have got the earlier version of the explanation of which the later version is contained in 420^a 18, 19, καὶ διὰ τοῦτό φασιν ἀκούειν τῷ κενῷ καὶ ἡχοῦντι. He would therefore omit 33 and 34 and after φ τὸ φῶς ὀρίζομεν continue οὕτω δὲ καὶ ὁ ψόφος ἀνακλᾶται μὲν αἰεὶ ὅταν καὶ μὴ ἡ συνεχῆς καὶ εἰς ὁ αἶρ, ἀλλὰ διὰ τὸ ψαθυρὸς εἶναι οὐ γεγωνεῖ... λείον ἐπίπεδον. κινηθῇ in line 35 Torstrik it will be noticed alters into καὶ μὴ ἡ.

420^a 4. διὰ δὲ τὸ ἐν αἱρί εἶναι] Pacius while saying '*receptam lectionem mutare sine librorum auctoritate mihi est religio*' conjectures ἓνα αἶρα.

420^a 5. κινουμένου τοῦ ἔξω τὸ εἶσω κινεῖ] This according to Torstrik has no meaning and he reads accordingly κινεῖται with EUXY. Trend. suggests that we should understand ψοφητικόν as the subject, or out of the genitive

absolute supply as nominative κινούμενος ὁ ἕξω ἀήρ. Torstrik regards 420^a 5—9 as made up of two versions, fragments of the earlier of which are preserved in W. See his Commentary, p. 153.

420^a 7. μέρος καὶ ἔμψυχον] Torstrik would read ἔμψοφον, because in an animate body it is not only the auricle which is ἔμψυχος.

420^a 9. ἐγκαταφοδοῦναι πρὸς τὸ ἀκίνητος εἶναι] Trendelenburg points out that this line is at first sight inconsistent with 16, αἰ γὰρ οἰκείαν τινα κίνησιν ὁ ἀήρ κινεῖται ὁ ἐν τοῖς ὠσίν; and Torstrik regards the second passage as entirely contradictory of Aristotle's views; because A. regarding air as the medium of sound holds that the ear is internally composed of air and that this in order to perceive the movements of external air is itself unmoved. He thinks therefore that the whole of this second passage (420^a 16—18) is the result of a gloss written by some medical student in the margin and then incorporated in the text.

Lewes (*Aristotle*, p. 252) justly ridicules such pedantic criticism and interprets the first ἀκίνητος as merely meaning that the air immersed in the ears is *incapable of escape*, though at the same time capable of movement. This explanation seems simpler than that of Philoponus—ἀκίνητον οὖν ἄνω ληπτέον τὴν ὑπ' ἄλλου κίνησιν—incorporated in my translation (p. 103).

420^a 17. ἀλλ' ὁ ψόφος ἀλλότριος] This then means that this spontaneous movement of the congenital air within the ear is to be distinguished from the sound which does not belong to the ear itself and so is not ἴδιος but ἀλλότριος.

§ 8. 420^a 31. οὐ δὴ ταχὺ τὸ ὀξύ] This would almost seem to be directed against the less exact account given by Plato in the *Timaeus* 67 C, ὅση δ' αὐτῆς ταχέια (κίνησις) ὀξείαν ὅση δὲ βραδυτέρα, βαρυτέραν (θῶμεν). Aristotle's point is that acute sound is not in itself quick, grave in itself slow, but that the character of the notes is a result (συμβαίνει) of the quickness and the slowness. The subject is discussed more fully in *De Gen. An.* v. 7, 787^a 11, where the writer distinguishes between strong and weak notes on the one hand, low and high on the other. Strong and weak he explains are used ἀπλῶς, low and high relatively: μεγάλῳφωνα μὲν οὖν ἐστὶν ἐν τῷ πολὺ ἀπλῶς εἶναι τὸ κινούμενον, μικρόφωνα δὲ τῷ ὀλίγον. βαρύφωνα δὲ καὶ ὀξύφωνα ἐν τῷ πρὸς ἄλληλα ταύτην ἔχειν τὴν διαφορὰν.

420^a 8. ἀπότασιν ἔχει καὶ μέλος καὶ διάλεκτον] ἀπότασις would seem to be the same with what is otherwise known as ἐπίτασις, which Aristoxenus (*Harmon. Elem.* i. 10) defines as follows: ἡ μὲν οὖν ἐπίτασις ἐστὶ κίνησις τῆς φωνῆς συνεχῆς ἐκ βαρυτέρου τόπου εἰς ὀξύτερον. Thus it is the *range of notes* of which a voice is capable. μέλος Trendelenburg explains as sonorum qui sibi inter se succedunt concentus. In *Politics*, Θ. 7, 1342^b 6, Aristotle speaks of τὰ δῶρια μέλη and in 1341^b 33 of μέλη ἡθικά and πρακτικά, from which it would appear that the word meant something like *measure*, the relation between fast and slow notes in the music. διάλεκτος is defined *Hist. An.* Δ. 9, 535^a 30 as ἡ τῆς φωνῆς ἐπὶ τῇ γλώττῃ διάρθρωσις and is said further 536^b, to be peculiar to man.

420^a 10. ἰχθύες. Cp. *Hist. An.* IV. 9, 535^b 14, and see Lewes, p. 287.

Torstrik thinks the passage from πολλὰ δὲ τῶν ζῴων in 9 down to οὐ τῷ

τυχόντι μορίῳ in 14 cannot have been written by Aristotle. For 1st, The illustration is foreign to the general spirit of the book, *summam ac principia in omnibus persequentis*: 2ndly, Had Aristotle wished to prove his point that many animals do not have φωνή, he would not have used the instances of fishes—*rem paucissimis notam*—but would have taken the more obvious instance of the βόμβος of insects: 3rdly, The non-Aristotelian character of the passage is attested by the fact that the illustration of the fishes is not inserted, as it ought to be, after καὶ τῶν ἐναίμων ἰχθύες; and the sentences as conventionally arranged argue that because sound is a certain movement of the air, insects which move air are without a voice—a mode of reasoning which the *summus artis logicæ magister* might well decline to acknowledge.

Of these grounds on which Torstrik doubts the genuineness of this passage, the 1st is no way convincing. Aristotle's love of concrete illustration would always lead him to refer to actual facts when they were ready to hand: the 2nd rather forgets that the λεγόμενοι with which the illustration is introduced points to a phenomenon not *paucissimis notam* but subject of much talk: and the 3rd would seem to be met by transposing the two sentences in question and reading καὶ τοῦτ' ἐυλόγως κ.τ.λ. after ἀλλ' οἱ λεγόμενοι.

§ 10. 420^b 13. φωνὴ δ' ἐστὶ ζῶου ψόφος, καὶ οὐ τῷ τυχόντι μορίῳ] Torstrik objects that καὶ is out of place because the one part of the sentence is not continued but limited by the second part. He therefore appealing to Themistius would read, φωνὴ δ' ἐστὶ ζῶου ψόφος, οὐ πᾶς δὲ καὶ οὐ τῷ τυχόντι μορίῳ. But the vulgate may be accepted if we regard φωνὴ δ' ἐστὶ κ.τ.λ. as itself a limitation of ἀέρος κίνησις τίς ἐστιν ὁ ψόφος, a limitation continued by καὶ οὐ τῷ τυχόντι μορίῳ.

420^b 21. τὸ δ' αἴτιον ἐν ἐτέροις εἰρήσεται] See περὶ ἀναπνοῆς c. 8.

§ 11. 421^a 1. ἀλλὰ τοῦτ' οὕπτει] X has τοῦτο but both Trend. and Torstrik read τοῦτ'φ. It is not clear what we are to regard as subject of οὕπτει. Torstrik takes τὸ ἐμψυχον and Kirchmann similarly translates "schlägt das beseelte Wesen."

CHAPTER IX.

The sense of smell is analyzed and shewn (§§ 1, 2) to be comparatively little developed in man. A classification of odours is given (§ 3) and the sense is shewn like other senses to involve a medium between the object and the organ. With the subject of the chapter cp. *De Gen. An.* v. 2, 781^a, *De Part. An.* ii. 10, 655^b, and *De Sensu* 5, 442^b.

§ 2. 421^a 13. σκληρόφθαλμα] Cp. *Hist. An.* iv. 10, 537^b 12, ἅπαντα γὰρ ἀμυδρῶς βλέπουσι τὰ σκληρόφθαλμα, and *De Part. An.* ii. 13, 657^b 34.

421^a 20. ἐν μὲν γὰρ ταῖς ἄλλαις λείπεται πολλῶν τῶν ζῴων] Cp. *Hist. An.* i. 15, 494^b 16 ἔχει δὲ ἀκριβεστάτην ἄνθρωπος τῶν αἰσθήσεων τὴν ἀφὴν, δευτέραν δὲ τὴν γεῦσιν· ἐν δὲ ταῖς ἄλλαις λείπεται πολλῶν.

421^a 23. παρὰ τὸ αἰσθητήριον τοῦτο εἶναι εὐφρεῖς] Cp. *Part. An.* ii. 16,

660^a 11 and *Physiogn.* 3, 807^b 12: ἐνφυοῦς σημεία σὰρξ ὑγροτέρα καὶ ἀπαλωτέρα, οὐκ εὐεκτικὴ οὐδὲ πιμελώδης σφόδρα.

§ 3. 421^b 1. ἡ μὲν γὰρ γλυκεία, κρόκου καὶ μέλιτος] So Torstrik has rightly edited the text omitting ἀπὸ τοῦ with STUVWX. Aristotle has been remarking that as flavours are better distinguished than odours, the names of odours are derived from flavours in virtue of the similarity which subsists between them, i.e. when an object tastes sweet it is also said to smell sweet. He illustrates by honey which being sweet to taste is also spoken of as sweet to smell.

§ 6. 421^b 21. ἀλλ' ἀδύνατον] Trendelenburg thinks this may be a marginal remark which has become incorporated with the text. But this supposition seems hardly necessary. Aristotle is saying: Since the perception of odours involves respiration, bloodless animals which do not respire would seem to require to have some other sense in order to perceive odours. But, Aristotle goes on, this cannot be: such animals perceive the difference between odorous and inodorous substances and this perception can only be called smell. The reasoning it is true is far from satisfactory, as the fact that bloodless animals do not respire and yet smell would naturally lead to the conclusion that their manner of smelling is different. But this can hardly be the meaning of ἐτέραν τω' αἴσθησιν: and had Aristotle really meant that their manner of perceiving smells was different he would not have left the subject without some suggestions as to what this manner was. Instead he lets himself be misled by language and argues that bloodless animals have smell (as he understands it) because they distinguish between the fragrant and the reverse.

§ 7. 422^a 1. τοῖς δὲ τὸν αέρα δεχομένοις ἔχειν ἐπικάλυμμα] Cp. *De Sensu*, 5, 444^b 21, οὐ τὸν αὐτὸν τρόπον ὁσφραίνονται, ἀλλὰ τοῖς μὲν ἀναπνέουσι τὸ πνεῦμα ἀφαιρεῖ τὸ ἐπικείμενον ὥσπερ πῶμά τι (διὸ οὐκ αἰσθάνεται μὴ ἀναπνέοντα) τοῖς δὲ μὴ ἀναπνέουσιν ἀφήρηται τοῦτο.

§ 8. 422^a 6. ἔστι δ' ἡ ὁσμὴ τοῦ ξηροῦ] Rather as Prof. Bain says (*Senses and Intellect*, p. 147) the objects of smell "require to be in the gaseous state in the same way that the objects of taste require to be liquefied. Solids and liquids therefore have no smell except by being evaporated or volatilized." As Bain however points out, *Heat* by its volatilizing power and by promoting decomposition is a powerful agent in developing odours.

CHAPTER X.

Taste has for its object something tangible, and therefore acts apparently as immediately as the sense of touch (§§ 1, 2). Its object is at once the sapid and the insipid (§ 3). Flavours are classified as sweet and bitter, oily and saltish, pungent and piquant.

§ 2. 422^a 15. οὐδὲ ταῖς ἀπορροαῖς] The opinion of Democritus.

§ 3. 422^a 20. ὥσπερ δὲ καὶ ἡ ὄψις] Here, as Bonitz notes, we have the commencement of a complex protasis of which the apodosis follows in line

29, οὕτω δὲ καὶ ἡ γεῦσις. "The protasis consists of three clauses of which the two first refer to the relation of sight and hearing to their objects, the third mentions the difference of the two meanings of the negation marked by a privative, and then out of the two first clauses through an application of the explanation given in the third, the same proposition is referred to the sense of taste."

422^a 27. ἀόρατον δὲ τὸ μὲν ὅλως λέγεται] Cp. *Metaph.* Δ. 22, 1022^b 32: καὶ ὅσαχῶς δὲ αἱ ἀπὸ τοῦ α ἀποφάσεις λέγονται, τοσαυταχῶς καὶ αἱ στερήσεις λέγονται· ἄνισον μὲν γὰρ τῷ μὴ ἔχειν ἰσότητα πεφυκὸς λέγεται, ἀόρατον δὲ καὶ τῷ ὅλως μὴ ἔχειν χρῶμα καὶ ἄπουν καὶ τῷ μὴ ἔχειν ὅλως πόδας καὶ τῷ φαύλους.

§ 4. 422^b 3. ἀναγκαῖον ἄρα ὑγρανθῆναι τὸ δυνάμενον μὲν ὑγραίνεσθαι σωζόμενον] Themistius paraphrases: δεῖ οὖν...ὑγραίνεσθαι οὕτως ὥστε σώζεσθαι αὐτοῦ τὴν οἰκείαν κατασκευὴν καὶ ὁπήνικα ὑγραίνεται.

§ 5. 422^b 10. τὰ δ' εἶδη τῶν χυμῶν] With the list cp. *De Sensu*, 4, 441^a 15, and for modern classifications see Bain, *Senses and Intellect*, pp. 154—159.

CHAPTER XI.

The sense of touch raises the question (§ 1) whether it is one or more senses, and whether it acts with or without a medium of sensation. The first question is partially solved (§ 2) by considering the wide range of the objects of other senses: as to the second question touch is shewn (§§ 5—8) to involve the flesh, not as a medium, but rather as a concomitant of sensation. Touch, it is further pointed out (§ 11), involves a state of indifference with regard to things tangible.

§ 2. 422^b 23. πᾶσά τε γὰρ αἰσθησις μῖα ἐναντιώσεως, κ.τ.λ.] Cp. *De Gen. et Corrupt.* ii. 2, 329^b 17, εἰσὶ δ' ἐναντιώσεις κατὰ τὴν ἀφήν αἶδε, θερμὸν ψυχρὸν, ξηρὸν ὑγρὸν, κ.τ.λ.

§ 4. 423^a 10. νῦν δὲ διὰ τὸ διωρίσθαι δι' οὗ γίνονται αἱ κινήσεις] Simplicius refers this to the media, Themistius to the organ of sensation.

§ 5. 423^a 20. νῦν δὲ δύο διὰ τὸ μὴ ἀντιστρέφειν] For Aristotle's conception of ἀντιστρέφειν (conversion), see *Categ.* 2^b 20, 14^a 30: *Anal. Post.* ii. 4, 91^a 35, and cp. Cope's exhaustive note on the *Rhetoric*, i. 1 (ἡ ῥητορική ἐστιν ἀντίστροφος τῇ διαλεκτικῇ). Originally the term denoted the counter-movement and answer of a chorus, antistrophe replying to the strophe, and "thus when applied in its strict and proper sense it denotes an exact correspondence in detail."

§ 6. 423^a 21. ἀπορήσειε δ' ἂν τις] Here, as Bonitz has clearly shewn (*Studien*, ii. 62, 63), we have the introduction to a question which is itself only stated in 423^b 1, πότερον οὖν πάντων ὁμοίως ἐστὶν ἡ αἰσθησις ἢ ἄλλων ἄλλως. The latter suggestion, that different senses act in different ways, is supported by the opinion current in Aristotle's day (καθάπερ νῦν δοκεῖ, 423^b 2), that

touch and taste operate in a different manner from the other senses. This opinion he refuses to accept ($\tau\acute{o} \delta' \text{ οὐκ ἔστιν}$), but before he states the question which forms the turning-point of his argument he adduces a number of considerations which themselves *militate against* such a conclusion. Body, he remarks, has always three dimensions. Now bodies which have anything between them cannot really touch one another. But all bodies exist either in air or water and as these are bodies ($\tau\acute{o} \delta' \text{ ὑγρὸν οὐκ ἔστιν ἄνευ σώματος}$)¹ it follows that our bodies cannot be in actual contact with tangible objects. And hence the *ἀπορία* which Aristotle raises.

423^b 1. εἰ διερόν] These words must be combined with *λανθάνει ἡμᾶς*. The sentence written at length would be as Trendelenburg remarks : *λανθάνει δὲ μᾶλλον ἡμᾶς εἰ διερόν διεροῦ ἄπτεται, ὥσπερ καὶ τὰ ἐν τῷ ὕδατι ζῶα λανθάνει εἰ ὑγρὸν ὑγροῦ. ὑγρόν*, it should be noticed, is the distinctive term to denote the quality of water just as *διερόν* serves to designate the distinguishing quality of air.

§ 9. 423^b 22. *δῆλον ὅτι ἐντὸς τὸ τοῦ ἀπτοῦ αἰσθητικόν*] Aristotle's argument is of course, as Kirchmann points out in his translation, somewhat misleading. The eye does not perceive an object when placed directly on it, simply because its too close proximity prevents the necessary refraction of the luminous rays, and the ear ceases to hear objects brought directly into contact with it because the auditory nerves can only be excited by waves of sound. Contact on the other hand is the excitement adapted to the tactile nerves, and the skin as the organ of touch just requires this excitation of its surface : so that Aristotle's argument just proves the opposite of the conclusion which he draws.

§ 10. 423^b 29. *ἐν τοῖς περὶ στοιχείων*] The reference is probably to *De Generat. et Corrupt.* ii. 2, 329^b 18. So Bonitz and Heitz.

CHAPTER XII.

The general character of sense-perception is expounded in this chapter, and Aristotle shews (§ 1) that sense receives the forms of things without their matter, that (§ 2) sense is not a merely physical process, but an interpreting act involving such proportion that (§ 3) excessive developments of any qualities destroy the organ of perception and (§ 4) plants are unable to perceive. Sense therefore involves an essential relativity between the organ and the object, and inanimate objects even if they be affected by some smell or sound cannot apprehend its form in such a way as to be said to perceive.

¹ By an unfortunate oversight, *ὑδατος*, the reading of *SUX*, has been rendered in the translation, through this reading being retained in the Tauchnitz text, which the first draft of the translation followed.

§ 2. 424^a 24. αἰσθητήριον δὲ πρῶτον ἐν ᾧ ἡ τοιαύτη δύναμις] Kirchmann translates: *Das eigentliche Sinnesorgan ist das in welchem ein solches Vermögen.* Similarly Trendelenburg: 'tacite mentem spectare videtur, quæ propria est hujus facultatis sedes.' But it seems easier to take πρῶτον in a temporal sense as meaning that an organ can only be called an organ of sense when this power of apprehending things in their specific character is reached.

424^a 25. ἔστι μὲν οὐκ ταυτόν, τὸ δ' εἶναι ἕτερον] This may be understood as referring either to the faculty and the object of sense, or to the organ and the faculty. But as Aristotle has just previously compared the αἰσθητήριον and the δύναμις αἴσθησις, it seems most natural to suppose him to be asserting the sameness and the difference of the organ and the faculty of sense. Cp. Themistius, p. 143, καὶ τῷ μὲν ὑποκειμένῳ ταυτόν ἢ τε αἴσθησις καὶ τὸ αἰσθητήριον, ὥσπερ καὶ ἅπαντα μορφῇ τῷ δεδεγμένῳ, τὸ δὲ εἶναι ἕτερον τοῦ τε ὀργάνου καὶ τῆς δυνάμεως. The meaning of τὸ εἶναι is simply its usual sense of being, manifestation, particular expression or application. So it is said in *Eth. Nic.* v. 1, that virtue and justice are fundamentally the same, but vary in their εἶναι or particular application, virtue being the state as such, justice the application of it to another (πρὸς ἕτερον). Cp. *Eth. Nic.* vi. 8, 1141^b 23, ἔστι δὲ καὶ ἡ πολιτικὴ καὶ ἡ φρόνησις ἡ αὐτὴ μὲν ἔξις, τὸ μέντοι εἶναι οὐ ταυτόν αὐταῖς, i.e. the ideal of the statesman and his ideal of individual welfare are fundamentally the same, but realize themselves in different ways.

§ 3. 424^a 30. λύεται ὁ λόγος (τοῦτο δ' ἦν ἡ αἴσθησις)] So Theophrastus (§ 32) arguing against the opinion of Anaxagoras that αἴσθησις is always μετὰ λυπῆς points out that the existence of ὑπερβολαὶ τῶν αἰσθητῶν does not (as Anaxagoras thinks) prove that the exercise of sense involves pain ἀλλὰ μᾶλλον ὡς ἐν συμμετρίᾳ τινι καὶ κράσει πρὸς τὸ αἰσθητὸν ἢ αἴσθησις.

§ 6. 424^b 17. ἡ τὸ μὲν ὁσμᾶσθαι αἰσθάνεσθαι] Philoponus (quoted by Trendelenburg) comments as follows: οὐ γὰρ ἀρκεῖ πρὸς τὸ αἰσθάνεσθαι τὸ δύνασθαι τὸ εἶδος χωρὶς τῆς ὕλης δέχεσθαι ἀλλὰ καὶ δυνάμεως δεῖ ψυχικῆς, ἥτις οὐκ ἐν πᾶσιν ἐστὶ τοῖς τὰ εἶδη τῶν αἰσθητῶν χωρὶς τῆς ὕλης δεχομένοις.

BOOK THIRD.

CHAPTER I.

THIS and the following chapter connect themselves closely with the analysis of sensation given in the preceding book. But there would seem to be no good reasons for re-arranging the Treatise and connecting the chapters in question with the Second Book. The Third Book takes up the general question of the cognitive powers of man: and while the Second Book had confined itself almost entirely to the analysis of αἴσθησις as such, the present book begins its account of cognition by considering the place of sense in knowledge. The first chapter accordingly seeks to shew the adequacy and completeness of our perceptive powers. Beginning (§§ 1—4) by a somewhat obscure and illogical argument to shew that the five senses already enumerated include all the possible senses, and that no other can be imagined to exist, the writer proceeds (§§ 5—8) to confirm this result by shewing that the common sensibles connect themselves with no one particular sense.

§ 1. 424^b 21—425^a 13. ὅτι δ' οὐκ ἔστιν αἴσθησις] The argument of this paragraph is full of difficulties, and both Trend. and Torstrik confess their inability to understand it. Bonitz, however (*Aris. Studien*, II. 30), while allowing that Aristotle's reasoning is materially untenable, yet maintains that, judged of by the presuppositions of Aristotle, the demonstration is perfectly intelligible: and Kirchmann has called attention to the fact that Aristotle's expression πιστεύσειεν implies that the writer does not propose to do more than bring forward a series of facts which will make his conclusion fairly probable. The reasoning, such as it is, is somewhat to the following effect. The writer wishes to shew that there is no faculty of sense (αἴσθησις) beyond the five which we possess. The chief ground he gives for this conclusion is, that we possess all the organs of sense (αἰσθητήρια) which we can be shewn to require, and that therefore we may, subject to the condition (425^a 11) that there is no body outside those with which we are acquainted, maintain that we are without none of the faculties of sense. Thus, as Bonitz says, the argument assumes the form of a series of assumptions to which the apodosis is to be found in 425^a 9, πᾶσαι ἅπα αἰ αἰσθήσεις, to be again repeated with the necessary limitations in 425^a 11, ὥστ' εἰ μὴ τι ἑτερόν ἐστι σῶμα. The words from ἔχει δ' οὕτως (424^b 31), τοῦ δὲ ἀμφοῖν (425^a 1), are to be regarded as subordinate to the main argument. This main argument would appear to be as follows:

1^o. We have αἴσθησις of all those qualities of an object for which we possess an αἰσθητήριον.

2^o. We possess all the αἰσθητήρια which a consideration of the nature of things can lead us to expect.

Therefore: we possess all possible αἰσθήσεις.

The centre of Aristotle's argument thus lies in the assumption—ἀνάγκη εἶπερ ἐκλείπει τις αἴσθησις καὶ αἰσθητήριόν τι ἡμῖν ἐκλείπειν (424^b 25)—the absence of any one αἴσθησις is possible only on the supposition of the absence of any organ of perception. Aristotle therefore seeks to shew that we are without no organ of perception: for which conclusion he adduces the following grounds. (α) The perceptive organs must operate either immediately or mediately. But (β) so far as immediate action is concerned, touch may be regarded as a perfect source of sense-perception: and this sense-organ is one we actually possess (ἣν τυγχάνομεν ἔχοντες). (γ) As to mediate perception, the organs which so operate can act only through the simple elements (τοῖς ἀπλοῖς), i.e. air, water, earth, and fire. Now (δ) all these, or at least as many of them as are adapted for sense-perception, enter into our perceptive organs. Air and water constitute the perceptive medium in the organs of sight, hearing, smell (and taste): fire and earth are either unsuited to act as media (this Aristotle could assume from the analysis of the *De Sensu*), or else enter into all the different organs of sense. Thus (ε) the only mediate organs which man *can* possess are those resolvable into air and water: and these as matter of fact various animals do possess (ταῦτα δὲ καὶ νῦν ἔχουσιν ἓνα ζῷα). Hence then we possess at once the mediate and the immediate organs of perception: and thus having all possible αἰσθητήρια we have also all possible αἰσθήσεις. But of course the validity of this reasoning depends entirely on the completeness of our analysis of σῶμα, and of the elements into which it can be resolved; and the writer therefore modifies his conclusion accordingly, ὥστ' εἰ μὴ τι ἕτερόν ἐστι σῶμα (425^a 11).

Practically, therefore, Aristotle's reasoning reduces itself to the hypothetical syllogism:

If any αἴσθησις is wanting to us, some αἰσθητήριον must be wanting:

But no αἰσθητήριον is wanting:

Therefore no αἴσθησις can be wanting either.

It remains to notice the first section of the main argument,

424^b 23. εἰ γὰρ παντὸς οὐ ἐστὶν αἴσθησις ἀφή, καὶ νῦν αἴσθησιν ἔχομεν] Bonitz rightly notes that Trendelenburg's explanation—si omnium rerum sensus in contactu positus esset, omnia sentiremus—destroys the sequence of the reasoning: but the words would seem to have a wider meaning than Bonitz gives them. Alexander Aphrod. appears right in regarding them as an illustration from touch of what holds good of every other sense, so that just as touch presents us with *all* the qualities of body as tangible, so sight presents us with all visible, hearing with all audible, &c. Cp. Alexander Ἀπορ. κ. Λύσεις (Spengel, p. 170) εἰπὼν γὰρ ἐπὶ τῆς ἀφῆς κατέλιπεν τὸ καὶ ἐπὶ τῶν

ἄλλων αἰσθητηρίων τε καὶ αἰσθήσεων προσθεῖναι, ὧν πάντων ληφθέντων γίνεται καθόλου τὸ εἶ ὧν ἔχομεν τὰ αἰσθητήρια, τούτων πάντων καὶ αἴσθησιν ἔχομεν. And the words would therefore seem to mean that we possess αἴσθησις of all those qualities of an object for which we possess an αἰσθητήριον.

§ 2. 424^b 30. ἔχει δ' οὕτως] This section Bonitz rightly regards as subordinate to the main argument. Its object is to shew that if the same elementary substance is the medium for different classes of sensible phenomena, one and the same elementary substance will serve to provide a knowledge of the different spheres of sense.

425^a 2. αἰσθίσεται τοῦ δι' ἀμφοῖν] The reasoning, it need scarcely be pointed out, is absurd if taken precisely as we have it in the text. The passage *apparently* maintains that if some element is medium for two classes of sensations, the presence of this element in the organism will secure the perception of what can be perceived through both, so that, as Simplicius notes, the mole as having air for hearing should also, as air is also a medium of vision, possess the sense of sight. Really, however, of course, Aristotle only means that since *both* air and water serve as media for perceiving colour, either air alone or water alone should serve as medium for perceiving what can be perceived through one or other (τοῦ δι' ἀμφοῖν). And the writer, treating the subject purely as a physiologist, takes no account of the fact that the elements only perceive through a conscious mind.

§ 5. 425^a 13. ἀλλὰ μὴν οὐδὲ τῶν κοινῶν οἷόν τ' εἶναι αἰσθητήριόν τι ἴδιον] Aristotle's proof of the position that the common sensibles cannot be ascribed to any one particular sense is encumbered by a number of difficulties and apparent inconsistencies which will be best discussed after considering the main links in his argument so far as they can be made out. The points to be noticed would seem to be simply these. The κοινὰ αἰσθητὰ cannot be given us by any one ἴδιον αἰσθητήριον: for if so they would have to be perceived either (1) in the way in which the sense of sight simultaneously with the perception of an object as yellow (say) knows it from past experience as also sweet, or (2) in the way in which the perception of some quality or other is immediately attended with the knowledge of the *object* to which the quality belongs. But the common sensibles are not perceived in this manner: they are not, that is to say, an indirect addition to a perception but inseparable elements in it. And, Aristotle would seem to add, even if the common sensibles could be identified with these indirect sensations, not even so would it be true to speak of a particular sense-organ as their source: for the senses in this work of combining qualities act not as separate independent senses, but as one united whole (οὐχ ἢ αὐταὶ ἀλλ' ἢ μία), which makes it impossible to describe the intuition of the common sensibles as the work of the particular organ of sensation.

425^a 14. ὧν ἐκάστη αἰσθήσει αἰσθανόμεθα κατὰ συμβεβηκός] This description of the common sensibles as perceived incidentally or κατὰ συμβεβηκός appears at first sight flatly inconsistent with the words of 425^a 27, τῶν δὲ κοινῶν ἤδη ἔχομεν αἴσθησιν κοινὴν οὐ κατὰ συμβεβηκός: and Torstrik has accord-

ingly suggested that we should introduce a negative (οὐ) into the former passage. But the MSS. offer no variation: and that the negative is inadmissible is evident from the fact that otherwise Aristotle's remark to prove that the common sensibles are *not* perceived κατὰ συμβεβηκός would be altogether superfluous. The truth would seem to be that Aristotle is really using the phrase κατὰ συμβεβηκός in somewhat different senses in the present chapter. Later on he employs it as in II. 6 to denote the inference added to a sensation, the indirect perception of an *object* through a quality. But in speaking of the κοινὰ as perceived, κατὰ συμβεβηκός, he means simply that they are perceived *concomitantly* with the special quality of sense: so that we no sooner perceive something as coloured than we perceive it κατὰ συμβεβηκός as a surface, no sooner hear a sound than we distinguish it as one or two. So Themistius (p. 150), ἡ ὄψις μεγέθους οὐκ αἰσθάνεται προηγουμένως ἀλλ' οὐδὲ σχήματος οὐδὲ στάσεως οὐδὲ τῶν λοιπῶν, ἀλλ' αἰσθανομένη τοῦ χρώματος καὶ τοῦ μεγέθους αὐτοῦ συναισθάνεται καὶ τοῦ σχήματος καὶ τοῦ κινεῖσθαι αὐτὸ ἢ ἡρεμεῖν καὶ τοῦ εἶναι. This explanation is fully confirmed by III. 3. 12, 428^b 22, τρίτον δὲ τῶν κοινῶν καὶ ἐπομένων τοῖς συμβεβηκόσιν οἷς ὑπάρχει τὰ ἴδια λέγω δ' οἷον κίνησις καὶ μέγεθος, ἃ συμβέβηκε τοῖς αἰσθητοῖς. If Aristotle can in the third chapter speak of movement and magnitude as 'incidents' or 'concomitants' of qualities of sense, there would seem to be no reason why he should not in the first chapter describe the common sensibles or categories of perception as perceived 'concomitantly' with the objects of sensation.

425^a 16. ταῦτα γὰρ πάντα κινήσει αἰσθανόμεθα] Torstrik, following the paraphrase of Simplicius, reads κοινή in place of κινήσει. Philoponus, however, has preserved κινήσει in his paraphrase: and the word is perfectly intelligible if understood to mean that all the other common sensibles are known as some modification or other of movement.

425^a 21—25. οὕτω γὰρ ἔσται ὥσπερ νῦν τῇ ὄψει] Torstrik supposes that we have got here a confusion between two recensions, of which the earlier commenced with εἰ δὲ μή, οὐδαμῶς, and ended with ἀλλ' ἢ οὕτως ὥσπερ εἴρηται, while the later included the sentence, οὕτω γὰρ ἔσται...ἅμα γνωρίζομεν, and then went on to τῶν δὲ κοινῶν...οὐκ ἄρ' ἐστὶν ἴδια. To this result he is led by the "inextricable confusion" of the passage which can be explained in no other manner: and particularly by the fact that Aristotle employs two examples of perception, κατὰ συμβεβηκός. But, to begin with, Torstrik would seem to miss entirely the drift of Aristotle's argument. The following is his explanation of the passage. 'There cannot be a peculiar sense of those objects which are common to all the senses. For if there were (εἰ δὲ μή, cp. Krüger, Grk. Gram., § 65, 5, 12), then the other senses would have nothing beyond the proper qualities of each left them to perceive, except the existence of the substance whose qualities they perceive *per se*. The truth, however, is far otherwise: for we perceive by the five senses, not only τὰ ἴδια which we perceive καθ' αὐτό, and that which we perceive κατὰ συμβεβηκός—i.e. substance, but also τὰ κοινά, which we have described as perceived καθ' αὐτά. Hence it follows that a special sense of the common sensibles would be, did it exist,

superfluous. Vides summam rei sitam esse in notione supervacanei, τοῦ μάτην, quae quamquam non ponitur, animo scribentis obversabatur.' This would hardly seem to represent the basis of Aristotle's reasoning. He is simply arguing that the κοινὰ αἰσθητά cannot be the object of a special sense, because, if so, they would not be, as they are, a direct element, a constant concomitant of our perceptions, but merely an accidental or incidental adjunct to them. Nor is it necessary to regard the passage as a confused mixture of two separate versions. Each passage has a definite place of its own, and the two illustrations are used to exemplify very different things. In other words, Aristotle shews *first* that the perception of the common sensibles cannot be identified with the manner in which the *constant conjunction* of two qualities in perception enables us to pass at once from the perception of the one to the perception of the other; our perception of something as extended simultaneously with the perception of it as coloured cannot be taken as analogous to the way in which the perception of something (say honey) as yellow at once leads to the perception of it as sweet. *Secondly*, he shews that this perception of the common sensibles cannot be assimilated to the *inferential perception* in which the immediate perception of something as white is at once translated into an object to which this colour belongs. Thus the two cases illustrated are quite different, and not alternatives as Torstrik would suggest. In the one case we proceed from one quality to another quality, in the other case to an object of which it is a quality. We have in short to distinguish in the chapter three senses in which αἰσθητά may be described as κατὰ συμβεβηκός—1st, as concomitants of sensation (κοινὰ αἰσθητά), 2nd, as associated qualities, 3rd, as qualities referred to objects.

§ 7. 425^a 29. ὥσπερ εἴρηται τὸν Κλέωνος υἱὸν ἡμᾶς ὁρᾶν] The words which follow εἴρηται have been suspected at once by Trend., Torstrik, Neuhäuser, and Kampe, and had better probably be regarded as the gloss of a copyist, who wishing to explain the manner referred to (ὥσπερ εἴρηται), added on the instance of a perception of an object *through* a quality, whereas the manner in question refers of course equally to the perception of the one of two associated qualities through the other quality. The words, however, are recognised by the older commentators, and need not cause much confusion though retained.

425^a 31. οὐχ ἢ αὐταὶ, ἀλλ' ἢ μία] Torstrik is evidently right in reading αὐταὶ simply instead of αἱ αὐταὶ, as Trendelenburg does. The words mean, of course, as Torstrik says: the senses perceive cognate qualities, not in themselves, i.e. not ὅψις ἢ ὀψις, γεῦσις ἢ γεῦσις, but so far as they coalesce in one system of perception.

§ 8. 425^b 7. καὶ αὐτῇ λευκοῦ] Torstrik prints these words in brackets: but they can be understood as illustrating Aristotle's meaning by a kind of exaggeration of the facts, sight of course really perceiving other colours besides white. Nor can one see why αἶμα in 9, should be altered into αἰεῖ.

CHAPTER II.

The consciousness which accompanies sensation is asserted (§§ 1, 2) to be a concomitant of sensation itself, and after explaining the identity of the sensible object, and the sensitive capacity as realized in action (§§ 4—8), the writer passes to the comparison and discrimination of the reports of different senses, and refers this (§§ 12—14) to the unity of the common sense which in its power of turning itself towards different phenomena may be compared with the point.

§ 1. 425^b 12. ἐπεὶ δ' αἰσθανόμεθα ὅτι ὁρῶμεν] The question which Aristotle is discussing in this chapter is the nature of that consciousness of sensation which accompanies the exercise of our perceptive powers, συναίσθησις as Alexander Aphr. calls it. Does, Aristotle asks, this sensation which accompanies sensation arise through the same sense as perceives the sensible object, or do we perceive visible objects by sight, but sight itself by another sense? To this question he replies, that it is the sense of sight itself which thus conveys us consciousness of the exercise of sight. It cannot, he argues, be a different sense, because then we should have two senses dealing with one and the same fact (δύο τοῦ αὐτοῦ ἔσονται). The ground of this conclusion is, that the sense thus conscious of the perceptive act must necessarily perceive the object-matter of the sense which it is observing. (Cp. Alex. Aphrod. (Απ. κ. Λύσεις, Spengel, p. 175), οὐ γὰρ ἐστὶ τὸ ὁρᾶν ἄλλο τι ἢ ἐνεργεῖν τῇ ὄψει περὶ τὰ ὁρατὰ, ὥσθ' ἢ τοῦ ὁρᾶν αἴσθησις αἴσθησις ἐστὶ τῆς γινομένης περὶ τὰ ὁρατὰ ἐνεργείας ὑπὸ τῆς ὁρατικῆς αἰσθήσεως. οὐχ οἷόν τε δὲ αἰσθῆσθαι τῆς περὶ τὰδε τινὰ ἐνεργείας μὴ καὶ τῶνδε αἰσθανόμενοι, περὶ ἃ ἡ ἐνέργεια γίνεται. ἀλλ' εἰ τοῦτοι ἔσονται τῶν αἰσθητῶν πλείους αἰσθήσεις, αὗται αἰσθανόμεναι αὐτῶν προηγουμένων καὶ αἱ τῶν ἐνεργειῶν τῶν περὶ τὰ αἰσθητὰ τῶν αἰσθήσεων αἰσθανόμεναι. τοῦτο δ' ἄτοπον τὸ τὰ ἴδια αἰσθητὰ ἐκάστη αἰσθήσει πλείους αἰσθήσεων αἰσθητὰ εἶναι λέγειν.)—This is the first argument to shew that the sensation of sensation cannot be a sense different from that whose action it perceives: the second (ἐπεὶ δ' εἰ καὶ ἑτέρα εἴη ἢ τῆς ὄψεως αἴσθησις, line 15) argues that the assumption of a sense outside the sense whose action is perceived only repeats *ad infinitum* the original question (εἰς ἄπειρον εἰσιν). The sensation of the sensation of seeing will in turn, that is to say, demand a similar sense, and this again another still. Thus then this sensation of sensation must be attached to the original sense itself (ὥστ' ἐπὶ τῆς πρώτης τοῦτο ποιητέον, where Torstrik would read θετέον or δοτέον; perhaps οἰητέον, one must conceive, would give a fair sense). For the meaning of πρώτη in this passage, and the degree to which it can be harmonized with Aristotle's views otherwise, see the Introduction, p. lxxxi. Cp. *De Somno*, 2, 455^a 15; ἐστὶ δέ τις καὶ κοινὴ δύναμις ἀκολουθοῦσα πάσαις, ἣ καὶ ὅτι ὁρᾷ καὶ ἀκούει αἰσθάνεται· οὐ γὰρ δὴ τῇ γε ὄψει ὁρᾷ ὅτι ὁρᾷ.

§ 2. 425^b 17. ἔχει δ' ἀπορίαν] The conclusion that the original faculty of sense is itself the sense which perceives the action of sense, suggests at once the difficulty whether, as it is colour which is the object of sight, the fundamental sense which thus perceives the perception of sight is coloured

also. In answer to this difficulty, Aristotle shews *first*, that the assumptions of the objection are not quite exactly stated—τὸ τῇ ὄψει αἰσθάνεσθαι is not, as the objection assumes, equivalent to ὁρᾶν: “even when we see nothing we are able to distinguish by the eyesight both darkness and light.” *Secondly* he goes on to allow that there is a sense in which we may allow colour of the organ of sight, only the colour transmitted to the eye is not that of the matter, but only of the form, a fact which enables us to understand why images of past impressions can subsist in memory. [Trendelenburg would seem to misunderstand the passage. He takes the ἀπορία to be that whereas the nature of sense-perception seems to require that the sense of vision which is thus sensible of vision should be itself coloured, there is a difficulty in seeing how this is possible: and then reasonably objects that the arguments adduced do not prove the point requiring to be settled.]

§ 4. 425^b 25. ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια] The object of this and the following three sections is to explain and expand the sense in which the characteristic of the object is reproduced in the characteristics of the perceiving organ, by shewing that both αἴσθησις and αἰσθητὸν are at the moment of perception, when the object is perceived and the sense perceiving, only different aspects of one and the same set of facts. For the sense here given to τὸ εἶναι, see the previous note on II. 12, 424^a 25.

§ 5. 426^a 4. ἡ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται] Aristotle here avails himself of the laws of κίνησις enunciated in the *Physics*, in order to explain the fundamental identity between the subject and object of perception. In the *Physics*, III. 3, 202^a 13, the writer shews that the action (ἐνέργεια) of the κινητὸν and that of the κινητικόν are fundamentally identical, just as is the case with the ἀναντες, and the κάταντες—ταῦτα γὰρ ἐν μὲν ἐστίν, ὁ μὲντοι λόγος οὐχ εἷς. In the present reference, τὸ ποιητικόν is of course equivalent to τὸ αἰσθητὸν, while τὸ πάσχον is τὸ αἰσθητικόν.—Torstrick regards the lines 426^a 4—11, as compounded out of two versions thus—

Earlier Version: ὥσπερ γὰρ ἡ ποίησις καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἀλλ’ οὐκ ἐν τῷ ποιούντι, οὕτω καὶ ἡ τοῦ αἰσθητικοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ αἰσθητικῷ.

Later Version: ἡ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται. διὸ οὐκ ἀνάγκη τὸ κινεῖν κινεῖσθαι.

§ 8. 426^a 20. ἀλλ’ οἱ πρότερον φυσιολόγοι] The reference is probably to Democritus, Empedocles, and Heraclitus, as the precursors of Protagoras in the sensationalism or subjective idealism supposed both by Plato and Aristotle to be involved in the dictum, πάντων μέτρον ἄνθρωπος. For further expressions of Aristotle’s views upon this subject, cp. *Categories*, 7^b 30, where Aristotle discussing the view that relative terms (τὰ πρὸς τι) are strictly coexistent, excepts ἐπιστήμη and ἐπιστητόν, αἴσθησις and αἰσθητόν. τὸ γὰρ αἰσθητόν πρότερον τῆς αἰσθήσεως δοκεῖ εἶναι· τὸ μὲν γὰρ αἰσθητόν ἀναίρεθὲν συναναιρεῖ τὴν αἴσθησιν, ἡ δ’ αἴσθησις τὸ αἰσθητόν οὐ συναναιρεῖ. Cp. also *Metaphys.* T. 5, 1010^b 36.

§ 9. 426^a 27. εἰ δ' ἡ συμφωνία φωνή τις ἐστίν] So I have determined to read this clause, about which already both Plutarch and Simplicius have suggested that εἰ δὴ συμφωνία should be read with E (pr.) SX; so that φωνή might be subject, and συμφωνία the predicate, as the thought would seem at first sight to render necessary. Trendelenburg accordingly suggests εἰ δ' ἡ φωνή συμφωνία τις ἐστίν, ἡ δὲ φωνή κ.τ.λ. Torstrik however accepts the reading adopted here, and remarks that Aristotle simply says that inasmuch as hearing can perceive harmony, and harmony is a ratio of a kind, it follows that hearing is itself essentially a kind of ratio. And indeed this would seem to give a sufficiently natural explanation of the passage. Aristotle's argument in short is—Hearing perceives sound: sound includes harmony as one of its forms: therefore hearing perceives harmony. But the faculty of sense is essentially identical with its object, and therefore as harmony involves a λόγος, or proportionate ratio on its side, so hearing must involve a similar ratio on its part.

426^b 5. οἶον τὸ ὀξύ ἢ γλυκὺ ἢ ἀλμυρόν] That the ἀλμυρόν is the result of a blending or definite combination is expounded at length in *Meteorolog.* B, 3, 358 and 359: so 358^b 34, ἐστὶν ἐν μίξει τινὸς τὸ ἀλμυρόν. That the other flavours, both the piquant (ὀξύ) and the sweet (γλυκὺ), involve a similar proportion, seems to be asserted in *De Sensu*, c. 4, 442^a 8, συμμείγνυνται δ' οἱ ἄλλοι χυμοὶ εἰς τὴν τροφήν τὸν αὐτὸν τρόπον τῷ ἀλμυρῷ καὶ ὀξεί, ἀντὶ ἡδύσματος. Cp. also *De An.* II. 10, 422^b 12.

426^b 5. ὅλως δὲ μᾶλλον τὸ μικτόν συμφωνία ἢ τὸ ὀξύ ἢ βαρὺ, ἀφ᾽ ἧ δὲ τὸ θερμαντὸν ἢ ψυκτόν] The words can hardly be right as they stand. Torstrik regards συμφωνία as simply the gloss of a stupid copyist, who not seeing that ἡδύ ἐστιν had to be supplied with ὅλως δὲ μᾶλλον τὸ μικτόν, inserted συμφωνία in the margin: then after this was admitted into the text, another added, ἢ τὸ ὀξύ ἢ τὸ βαρὺ. “Sed etiam latius serpsit corruptela: sic enim pergit miser interpolator: ἀφ᾽ ἧ (vel ἀφ᾽ ἧ) δὲ τὸ θερμαντὸν (alit. θερμαντικόν) ἢ ψυκτόν (vel ψυκτικόν)—quae verba omni sensu carent. Volebat fortasse tale quid: ἀφ᾽ ἧ δὲ τὸ μικτόν (vel potius temperatum) ἡδίων τοῦ θερμοῦ καὶ τοῦ ψυχροῦ.

§ 10. 426^b 8. ἐκάστη μὲν οὖν αἴσθησις] On the general argument of these paragraphs in which Aristotle shews that in order to distinguish sensations we require something beyond the separate sensations as such, see the Introduction, p. lxxvi.

§ 11. 426^b 15. δηλον ὅτι ἡ σὰρξ οὐκ ἔστι τὸ ἔσχατον αἰσθητήριον] “Ad eorum sententiam redit impugnandam, qui quod sensus suscipiunt, a materia non segregant et in ipsis sensuum instrumentis collocant, de vi supra materiam evectâ parum solliciti.” Trend. Cp. *De Part. An.* II. 10, 656^b 34, where Aristotle, noting the duplicity of the organs of sense, observes that this double characteristic is not to be found in touch: τοῦτον δ' αἴτιον ὅτι οὐκ ἔστι τὸ πρῶτον αἰσθητήριον ἡ σὰρξ καὶ τὸ τοιοῦτον μῦριον ἀλλ' ἐντός.

426^b 18. ἀλλὰ δεῖ ἐνὶ τινὶ ἄμφω δῆλα εἶναι] Cp. *De Sensu*, c. 7, 449^a 5, εἰ δὲ δὴ ἄλλω μὲν γλυκεὺς ἄλλω δὲ λευκοῦ αἰσθάνεται ἡ ψυχὴ μέρει, ἥτοι τὸ ἐκ

τούτων ἔν τι ἐστὶν ἢ οὐχ ἔν. ἀλλ' ἀνάγκη ἔν' ἐν γάρ τι τὸ αἰσθητικὸν ἐστὶ μέρος. τίνος οὖν ἐκεῖνο ἐνός; οὐδὲν γὰρ ἐκ τούτων ἔν. ἀνάγκη ἄρα ἔν τι εἶναι τῆς ψυχῆς ὃ ἅπαντα αἰσθάνεται.

426^b 20—22. δεῖ δὲ τὸ ἐν λέγειν...νοεῖ καὶ αἰσθάνεται] These two sentences, of which the later was already characterized by Trendelenburg as '*iners et otiosa repetitio*,' are regarded by Torstrik as alternative versions, of which the earlier extended from λέγει ἄρα τὸ αὐτὸ down to αἰσθάνεται, while the later version is contained in the words δεῖ δὲ τὸ ἐν λέγειν...τοῦ λευκοῦ. But the words οὕτω καὶ νοεῖ are needed to complete the illustration of the work of discrimination in sense and thought, as exemplified by the work of the referee who decides between two different opinions: and the words λέγει ἄρα τὸ αὐτὸ are not alternative for the preceding δεῖ δὲ τὸ ἐν λέγειν, but are a reassertion of them as meaning that *though* the two opinions are different, still some one person is needed to assert the difference. The really superfluous words are ἔτερον γὰρ τὸ γλυκὺ τοῦ λευκοῦ, which look extremely like the gloss of a copyist, and repeat (except for the addition of γὰρ) verbatim the words in 426^b 18, two lines before. They can easily be omitted (as I have done in the translation): if retained, they had better be read after ἔτερα ἀλλήλων.

§ 13. 426^b 29. ἀλλὰ μὴν ἀδύνατον] This is of course the beginning of a supposed objection to the action of a discriminating faculty as Aristotle has conceived it. The difficulty is shortly this.—How can a single faculty, as Aristotle has shewn the discriminating sense to be, move in such opposite directions as the perception of opposite qualities involves, without losing its character of unity. This difficulty Aristotle meets by maintaining that the faculty, while numerically one, is in its existence and its mode of operation twofold.

427^a 2—5. ἄρ' οὖν ἅμα μὲν καὶ ἀριθμῷ.....καὶ ἀριθμῷ ἀδιαίρετον] This passage is regarded by Torstrik as made up of two versions, thus—

τὸ δὲ πικρὸν ἐναντίως, καὶ τὸ λευκὸν ἑτέρως.

Earlier Version.

ἔστι δὴ πως, ὡς τὸ διαιρετὸν τῶν διηρημένων αἰσθάνεται, ἔστι δ' ὡς ἡ ἀδιαίρετον τῷ εἶναι μὲν γὰρ διαιρετόν, τόπῳ δὲ καὶ ἀριθμῷ ἀδιαίρετον.

Later Version.

ἄρ' οὖν ἅμα μὲν καὶ ἀριθμῷ ἀδιαίρετον καὶ ἀχώριστον τὸ κρίνον, τῷ εἶναι δὲ κχωρισμένον;

§ 14. 427^a 6. δυνάμει μὲν γὰρ...τάναντία, τῷ δ' εἶναι οὖ] Trendelenburg, true to his idea that τὸ εἶναι means *notio et ratio*, thinks that the addition τῷ δ' εἶναι obscures rather than clears up the opposition between δυνάμει and ἐνεργεῖσθαι: but it is evident that, if εἶναι means simply manifestation and determinate existence, the words ἀλλὰ τῷ ἐνεργεῖσθαι διαιρετόν are expegetical of τῷ δ' εἶναι οὖ. The present passage in fact is particularly valuable for the manner in which it shews how τὸ εἶναι = operation or application (ἐνεργεῖσθαι), and so further = λόγος (aspect).

427^a 6. δυνάμει μὲν γὰρ τὸ αὐτὸ καὶ ἀδιαίρετον] Torstrik would read τὸ αὐτὸ διαιρετὸν καὶ ἀδιαίρετον, τῷ δ' εἶναι οὖ. But this is evidently unnecessary in the face of good MS. authority for τάναντία. What Aristotle means is, not

that the same thing may be potentially divided and undivided, but that while it may be allowed that the same thing may *even as undivided* contain potentially the tendency of two contrary directions, it is difficult to see how in *real fact*, in actual exercise, such two-sided action is possible.

§ 15. 427^a 9. ἀλλ' ὥσπερ ἦν καλοῦσι στιγμήν] Brentano (p. 91) thinks that by στιγμή is meant a νῦν, or point of time, and refers to *De Coelo*, III. 1, 300^a 14, τὸ γὰρ νῦν τὸ ἄτομον οἶον στιγμή γραμμῆς ἐστίν. But, as Neuhäuser (p. 46) has remarked, the question suggests itself, why did Aristotle if he meant νῦν not use the word itself, and why is it that, while στιγμή is represented afterwards by σημεῖον, πέρασ, and ὅρος, it is never represented by νῦν itself? Nor do there seem to be any real grounds for Trend.'s emendation, ἀλλ' ὥσπερ ἐν καλοῦσί τινες στιγμήν. It is true, indeed, that in *Physics*, VIII. 8, 262^b 24, and other places, the monad and point are more or less identified. But, if Aristotle were speaking simply of the monad, it would be superfluous in him to tell us it was sometimes called a point. What the writer does mean, is no doubt, that he is using the term 'point' in a much wider sense than that in which it is commonly used: that he is using it as a point ἀπλῶς, no matter whether it be in time or place, no matter whether it be conceived arithmetically or geometrically. There is, therefore, no need to follow Themistius and Alexander and regard στιγμή as the centre of a circle, from which, *as many*, a number of radii start, and in which, *as one*, they all unite; Aristotle is simply thinking of the point which, while it remains essentially a unity, is the starting-point of lines on either side of itself. Cp. *Physics*. IV. 11, 220^a 10, καὶ γὰρ ἡ στιγμή καὶ συνέχει τὸ μῆκος καὶ ὀρίζει. ἔστι γὰρ τοῦ μὲν ἀρχὴ τοῦ δὲ τελευτή.

427^a 11. ἡ μὲν οὖν ἀδιαίρετον, ἐν τὸ κρίνόν ἐστι] Torstrick detects here again a case of repetition, the words ἡ μὲν οὖν δυσὶ χρήται τῷ πέρατι, κ.τ.λ. only asserting afresh what has been already stated in ἡ μὲν οὖν ἀδιαίρετον. He regards then ἡ μὲν οὖν δυσὶ as the earlier version of the thought of which ἡ μὲν οὖν ἀδιαίρετον is the later. In the second passage it might be better to read with Trend., ἡ μὲν οὖν δις or ἡ μὲν οὖν ὡς δυσί: though the passage is intelligible as it stands. Cp. *Physics*. VII. 8, 262^a 19, 263^a 23, τῷ ἐνὶ σημείῳ ὡς δυσὶ χρήται.

427^a 13. καὶ κεχωρισμένα ἔστιν ὡς κεχωρισμένῳ] The simplest emendation of this passage would be to read with Trendelenburg κεχωρισμένον in place of κεχωρισμένῳ: and taking κεχωρισμένον as agreeing with a subject τὸ κρίνον, translate: So far then as the discriminating faculty uses the termination of the point as two, it judges of two objects, and these separated from one another, just as the faculty itself is for the time divided. Or as ELT read κεχωρισμένῳ (the dual), we might read καὶ κεχωρισμένον ἔστιν ὡς κεχωρισμένῳ: and the faculty of judgment is divided even as the two things (to be distinguished) are divided. But as Alexander (Spengel, p. 180) reads ὡς τῷ κεχωρισμένῳ, and Simplicius κεχωρισμένοις, it would seem that the dative is to be retained.

CHAPTER III.

Imagination (*φαντασία*) is the chief subject of discussion in this chapter, but it is so, not directly, but only through the prior question, how far sense-perception is identical with thought. Older thinkers had identified the two (§ 1), but, Aristotle points out, their theory fails to account for error (§ 2), and (§ 3) is disproved by the fact that while sense-perception is the property of every animate existence, thought itself is confined to few. Imagination is then further adduced as forming a division between sense and thought, and the remainder of the chapter is devoted to setting out its nature. Such imagination is dependent on sense-perception, but is distinct from conception and reflection. It is neither in fact sense-perception (§ 7), nor opinion (§ 8), whether accompanied by sense or in combination with sense (§ 9). Rather (§§ 11, 12) it depends upon the law of movement according to which a sensuous impression propagates its results, and varies in its degrees of truth and falsity according to the character of these impressions. It is etymologically connected with the light (§ 13), and becomes a principle of action in *animal* existence.

The connection between this chapter and those which have preceded, would seem to be contained in the idea of *discrimination* as something common to sense and thought, and yet not warranting us in trying to identify the two. We need hardly then regard this third chapter as forming a more fitting beginning for the third Book: Aristotle's problem throughout the Book is the nature of knowledge as such, and the way in which our apprehension of phenomena influences will.

§ 1. 427^a 16. *ἐπεὶ δὲ δύο διαφοραῖς ὀρίζονται*] The words are without any direct apodosis, and Torstrik supposes that some words have fallen out before *δοκεῖ δὲ καὶ τὸ νοεῖν*, and left a lacuna which he proposes to fill up with a Greek version of Argyropulos' words, and insert *σκεπτόν εἴ τι διαφέρει τὸ νοεῖν τοῦ αἰσθάνεσθαι*. Bonitz, on the other hand (*Aris. Studien*), thinks that *δοκεῖ δὲ καὶ* simply continues the protasis introduced by *ἐπεὶ δέ*, and that the real apodosis is to be found in the words 427^b 6, *ὅτι μὲν οὖν οὐ ταῦτόν ἐστι τὸ αἰσθάνεσθαι*. The sequence of ideas in the chapter is then, according to Bonitz, the following. *While* the essence of the soul is often defined by two characteristics, local movement on the one hand, thought, distinction, and perception on the other, and *while* many regard thought as a kind of sense-perception, and the ancients explain thought and perception as identical, it is obvious at the same time that sense and thought are not really the same. This interpretation agrees with the explanation of Plutarch as quoted by Philoponus, and corresponds with the paraphrase of Simplicius. But it would seem simpler to regard the apodosis as given in *δοκεῖ δὲ καί*, as meaning that since the popular psychology acknowledges only two main

directions of the mind's activity, motion on the one hand, cognition on the other, the popular mind comes to think of perception and thought as one, on the ground that both are cognitive. A simple emendation in the text would be to omit δέ after δοκεῖ: this at least seems more reasonable than Susemihl's γάρ which he would substitute for δέ.

427^a 22. ὥσπερ καὶ Ἐμπεδοκλῆς εἶρηκε πρὸς παρεόν] The immediate meaning of this in Empedocles' theory would be that as cognition depended upon the elements of existence, a different blending of the physical elements would lead to a corresponding difference in the character of our knowledge. Cp. *Metaphys.* Γ. 5, 1009^b 17, καὶ γὰρ Ἐμπεδοκλῆς μεταβάλλοντας τὴν ἕξιν μεταβάλλειν φησὶ τὴν φρόνησιν.

§ 2. 427^b 1. οἰκειότερον γὰρ τοῖς [ῥόοις] The meaning of this would seem to be that it is the possibility of error which constitutes the essence of conscious and rational existence. Just, Aristotle would seem to say, as inanimate nature knows nothing bad and therefore nothing good, so similarly it has never attained to the profound sense of falsity as opposed to truth. And therefore a pure sensationalism which knows nothing except that which is felt is quite unequal to explain the complexity of the intellectual consciousness. And Aristotle goes on further to explain that this difficulty about the possibility of deception can be explained by the thinkers in question only in one or other of two ways: either *first* by maintaining that all appearances are true, or *secondly* by explaining deception as contact on the part of the dissimilar (knowledge being by Empedocles and his school explained as contact of *like* with like). The first way out of the difficulty, that *all* impressions and phenomena are true is examined in the third book of Aristotle's *Metaphysics*: the second means of escape is shewn here to be insufficient by reference to Aristotle's doctrine that the knowledge of one contrary implies the knowledge of the other.

427^b 5. δοκεῖ δὲ καὶ ἡ ἀπάτη καὶ ἡ ἐπιστήμη τῶν ἐναντίων ἢ αὐτὴ εἶναι] Aristotle's point would seem to be that to explain misapprehension as a contact of the dissimilar, while knowledge is a contact of the similar involves an inconsistency with ordinary thought. So apparently Themistius understands the words: ἄλλως τε ὅτι καὶ τῶν ἐναντίων μία ἐστὶν ἐπιστήμη καὶ μία ἄγνοια. ὁ γὰρ τὸ ἀγαθὸν ὡς ὠφέλιμον γινώσκων καὶ τὸ κακὸν ὅτι βλαβερὸν συνεπίσταται, καὶ ὁ περὶ θάτερον ἐξαπατῶμενος ἐξαπατᾶται καὶ περὶ θάτερον. χρὴ οὖν ἢ τοῖς ἐναντίοις ἡμᾶς ὁμοιοῦσθαι ἅμα ὅταν τὰναντία γινώσκωμεν ἢ τοῖς ἐναντίοις ἀνομοιοῦσθαι ὅταν περὶ τὰναντία ἐξαπατῶμεθα· ἄμφω δὲ ὁμοίως ἀδύνατα. But the significance of Aristotle's words is not very obvious: they can hardly, however, bear the meaning which Weisse (p. 292) seeks to extract from them: "the same unity of opposites as constitutes knowledge, lies also at the foundation of error, and this last should not accordingly be explained in contradiction with the definition of knowledge which has been referred to." The words might even be taken as *confirmatory* of the explanation of ἀπάτη as a θίξις τοῦ ἀνομοίου, and be translated, "indeed misapprehension is generally thought identical with a knowledge of contraries."

§ 3. 427^b 7. τοῦ μὲν γὰρ πᾶσι μέτεστι] This argument had been already advanced by Alcmaeon. See Theophrastus, *De Sensu*, § 25, 'Ἀλκμαίων μὲν πρῶτον ἀφορίζει τὴν πρὸς τὰ ζῶα διαφορὰν' ἄνθρωπον γὰρ φησι τῶν ἄλλων διαφέρειν ὅτι μόνον ξυνίησι· τὰ δ' ἄλλα αἰσθάνεται μὲν οὐ ξυνίησι δέ.

427^b 9. τὸ μὲν ὁρθῶς φρόνησις καὶ ἐπιστήμη καὶ δόξα ἀληθής] It appears from this, as Trendelenburg remarks, that νοεῖν is regarded as the generic word under which φρόνησις, κ.τ.λ. are subdivisions. φρόνησις itself is used in a vaguer sense than in the *Ethics*, where it is regarded as ἐπιτακτική, and is as Alexr. Aprod. remarks (περὶ εἰμαρμένην, fol. 47) practically the ἐπιστήμη ποιητέων τε καὶ οὐ ποιητέων.

427^b 14. οὐδενὶ ὑπάρχει ᾧ μὴ καὶ λόγος] λόγος here evidently corresponds to intelligible speech as opposed to φωνή, mere vocal utterance. So in *De Interpret.* 16^b 26, λόγος is defined as φωνὴ σημαντική, and in *Polit.* 1. 1, 1253^b 9, φωνή is said to be the expression of pleasure and pain, while λόγος is used to express the expedient and the injurious.

§ 4. 427^b 14. φαντασία γὰρ ἕτερον καὶ αἰσθήσεως καὶ διανοίας] The connection between this sentence and that immediately preceding is the reverse of obvious, and has given considerable trouble to the commentators. Julius Pacius regards it as intended to confirm the distinction between thought and sense, by pointing to the faculty of imagination as midway between them: "nam si ambo extrema differunt a medio, multo magis differunt inter se." But, as Freudenthal remarks, this explanation is too artificial to be accepted. Freudenthal himself however does not find a much more natural sequence in the passage. According to his interpretation, the passage bears the following meaning: 'Sense, it has just been said, is a characteristic of all animals, thought is so of only a few. Nor need it be objected, Freudenthal would make Aristotle interpose the remark, that φαντασία is a kind of αἴσθησις, and is yet as much as thought absent from some animals: for, the writer continues, φαντασία is different at once from sense-perception, and from thought. This strikes me as also *viel zu gekünstelt*: and it would seem better to follow the interpretation of Themistius who regards the passage as answering a supposed objection to what Aristotle has just said by viewing φαντασία as standing to the animal in the place of thought. Cp. Themistius (Spengel, p. 162), εἰ δὲ ὅτι πολλὰ καὶ τῶν ἀλόγων ζῶων μετέχειν φανέν διανοίας, οὐδὲν πρὸς τὸν λόγον· καταχρώμεθα γὰρ ἐπ' αὐτῶν τῷ τῆς διανοίας ὀνόματι. τὰ δὲ διανοίας μὲν οὐδαμῶς κοινωνεῖ, φαντασίας δὲ ἴσως ἕνα ἥπερ ἀμείνων μὲν δύναμις τῆς αἰσθήσεως, πολὺ δὲ ὑποβεβηκυῖα τῆς διανοίας, καὶ ὥσπερ ἀμφοῖν ἐν μεθορίῳ κειμένη καὶ ἐπακολουθοῦσα μὲν τῇ αἰσθήσει, προλαμβάνουσα δὲ τὴν ὑπόληψιν. Even so, however, it must be allowed, the connection is not altogether satisfactory.

427^b 16. ὅτι δ' οὐκ ἔστιν ἡ αὐτὴ νόησις καὶ ὑπόληψις, φανερόν] Such is the reading of all the MSS. except U which has in the margin φαντασία instead of νόησις and y which omits the word. The clause created difficulty because Aristotle was supposed to say that νόησις and ὑπόληψις were not identical: and different devices were made in order to reconcile this with the non-

identity of ὑπόληψις and φαντασία which Aristotle set himself to prove. So Simplicius regarded νόησις as equivalent to φαντασία. Freudenthal, however, has shewn that we must regard νόησις as a predicate to which a subject φαντασία has to be supplied, and translate: It is clear that it (φαντασία) is a different kind of thought from conception. This at least corresponds with 427^b 28, where about τὸ νοεῖν we read τούτου δὲ τὸ μὲν φαντασία δοκεῖ εἶναι τὸ δὲ ὑπόληψις.

§ 5. 427^b 26. περὶ ὧν τῆς διαφορᾶς ἕτερος ἔστω λόγος] This is generally taken to refer to the sixth book of the *Ethics*.

§ 6. 428^a 2. καὶ μὴ εἴ τι κατὰ μεταφορὰν λέγομεν] This most probably refers, as Freudenthal explains, to the popular usage of the term as equivalent to show, brilliancy or glamour. So Theophrastus speaks of the φαντασία λίθων, and in *Acts* xxv. 23, we read that Agrippa entered μετὰ πολλῆς φαντασίας.

§ 7. 428^a 11. σκώληκι δ' οὐ] So Torstrick would seem to have rightly emended the text, following the paraphrases of Themistius and Sophonias. The negative is wanting in all MSS., but is evidently necessary. Cp. *De Gen. An.* B. I, 732^a 22, where the σκώληξ is regarded as the lowest type of animal existence. The intelligent character of bees and ants is noticed again in *Hist. An.* I, 1, 488^a 12: *De Part. An.* II. 4, 650^b 24: and *Metaph.* A. I, 980^b 23.

§ 8. 428^a 19. ἀλλὰ δόξη μὲν ἔπεται πίστις, κ.τ.λ.] Torstrick thinks that we have got here a first and second version of the same argument, the first version being contained in the words πάση μὲν δόξη, the latter in the words ἀλλὰ δόξη, thus—

Earlier Version.

ἔτι πάση μὲν δόξη ἀκολουθεῖ πίστις, πιστεῖ δὲ τὸ πεπεῖσθαι, πειθοῖ δὲ λόγος· τῶν δὲ θηρίων ἐνίοις φαντασία μὲν ὑπάρχει, λόγος δ' οὐ.

Later Version.

ἀλλὰ δόξη μὲν ἔπεται πίστις (οὐκ ἐνδέχεται γὰρ δοξάζοντα οἷς δοκεῖ μὴ πιστεῖν), τῶν δὲ θηρίων οὐθενὶ ὑπάρχει πίστις, φαντασία δὲ πολλοῖς.

But the two sentences are manifestly not a mere re-statement of one another: the second is a direct extension of the first. Aristotle is trying to shew that φαντασία is not to be identified with δόξα, and in support of this he adduces *two* arguments: *first*, δόξα is followed by πίστις, but while many animals have φαντασία, none have πίστις: *secondly*, δόξα as followed by πίστις involves λόγος, but φαντασία is the property of many animals, λόγος is not. πίστις in fact is the middle term of the one syllogism, λόγος the middle term of the other.

§ 9. 428^a 24. φανερόν τοίνυν ὅτι οὐδὲ δόξα μετ' αἰσθήσεως...οὐδὲ συμπλοκὴ δόξης καὶ αἰσθήσεως φαντασία ἂν εἴη] W. H. Thompson points out in the *Journal of Philology* (no. 16), that the apparent tautology between the two definitions, "a combination of judgment and sensation," and "judgment accompanied by sensation," is explained by a reference to Plato's *Sophist*, 264 B, where we are told that the mental state described by φαίνεται, is a "mixture of sensation and judgment" (σύμμιξις αἰσθήσεως καὶ δόξης: and just before it is

remarked that when a judgment is formed of which one of the terms is an object then present to the sense, we may properly describe such judgment as *φαντασία*.

428^a 28. λέγω δ', ἐκ τῆς τοῦ λευκοῦ δόξης καὶ αἰσθήσεως ἡ συμπλοκὴ φαντασία ἐστίν] Trendelenburg here reads εἰ with V in place of ἐκ, and suggests also ἔσται in place of ἐστίν in 428^b 1, so as to make it plain that Aristotle is here putting *hypothetically* the explanation of φαντασία as the combination of δόξα and αἴσθησις, and refuting it by the conclusion to which the theory tends, τὸ οὖν φαίνεσθαι. But while it is true that the words just mentioned are a *reductio ad absurdum* of the view that imagination is a combination of the communications of sense and of opinion, they are so, not directly, but only on the interpretation given to this theory in the words, οὐκ ἄλλου τινὸς ἐστίν ἡ δόξα ἀλλ' ἐκείνου ἐστίν οὐ καὶ αἴσθησις, an interpretation of which the words, λέγω δ' ἐκ τῆς τοῦ λευκοῦ...φαντασία ἐστίν are an illustration, and for which the only proof adduced, beyond the vague διὰ τε ταῦτα of 428^a 27, is given in the words, οὐ γὰρ δὴ...τῆς τοῦ λευκοῦ. Torstrik regards ἡ συμπλοκὴ as the addition of an interpolator.

§ 10. 428^b 8. ἀλλὰ ψευδὴς ἐγένετο, ὅτε λάθοι μεταπεσὼν τὸ πρᾶγμα] 'Vel potius οὐ γὰρ ψευδὴς si reliqua vera,' Trendelenburg. The clause, however, may be better regarded as a parenthetical note to state an apparent objection to Aristotle's conclusion. If, Aristotle has argued, the observer (say of the sun) still possess his true opinion of the dimensions of the sun, but yet have the imagination that it is but a foot in its diameter, then on the theory that imagination and opinion are connected, the same opinion must be true and false. To this argument some one is supposed to object that this simultaneous truth and falsity is not so inconceivable as it appears, because the falsity of the view might be due to a change meanwhile in the object of which the observer was unaware. If this be the meaning, we must then suppose the writer to add a τοῦτο δὲ οὐδὲν διαφέρει. Otherwise we might possibly translate ἀλλὰ, *except* (cp. Jelf's *Greek Grammar*, 773, 4), and connect it closely with what precedes: or we might take the words as meaning something like this—the same opinion must be true and false, whereas as matter of fact and *ex hypothesis*; the opinion only became false when the object altered in its character without our knowing it.

§ 12. 428^b 19. δεύτερον δὲ τοῦ συμβεβηκέναι ταῦτα] So the words are written in STUVy, and also according to Bekker and Trend. in E. The Ald. and Sylb. Eds. read τοῦ ᾧ συμβέβηκε καὶ ταῦτα, which is certainly simpler, and agrees with the paraphrase of Themistius, δεύτερον δὲ τῶν ὑποκειμένων τοῖς ἰδίοις καὶ οἷς ἐκείνα συμβέβηκεν. Still τοῦ συμβεβηκέναι ταῦτα, the perception of the concomitance of the particular qualities of sense, makes perfectly good sense, notwithstanding Torstrik's remark—τὸ συμβεβηκέναι non est objectum sensus sed intellectus sicut ceterae notiones abstractae.

428^b 24. ᾧ συμβέβηκε τοῖς αἰσθητοῖς] Torstrik regards the words as an interpretation and an unhappy one. But see the note on III. 1, 5, 425^a 14.

§ 13. 428^b 30. εἰ οὖν μηθὲν μὲν ἄλλο ἔχει τὰ εἰρημμένα] Trendelenburg's

reading, ἡ μὴ φαντασίαν, would require us to regard τὰ εἰρημένα as subject, and translate: If then the qualities just mentioned attach to nothing but φαντασία: and it seems simpler to read, ἡ ἢ φαντασία with LSTUVXY. Which-ever reading we accept, the clause is not free from tautology. Torstrik conjectures, εἰ οὖν μηθὲν μὲν ἄλλο ἔχει τὰ εἰρημένα, τοῦτο δ' ἔχει, ἢ φαντασία ἂν εἴη κίνησις.

429^a 1. φαντασία ἂν εἴη κίνησις] Cp. *De Somno*, I. 459^a 17, ἔστι δὲ φαντασία ἢ ὑπὸ τῆς κατ' ἐνέργειαν αἰσθήσεως γιγνομένη κίνησις.

CHAPTER IV.

Thought or Reason (Νοῦς) is the subject of this chapter. The chief object of the writer is to reconcile the fact that thought, like sense, is 'affected' by its object with the doctrine of Anaxagoras that reason is uncompounded with material objects. See the Introduction, pp. c—civ.

§ 1. 429^a 12. σκεπτόν τιν' ἔχει διαφοράν, καὶ πῶς ποτε γίνεται τὸ νοεῖν] This would seem to be almost a statement of the problems proposed in chapters four and five respectively. At least in the fourth chapter Aristotle seems mainly occupied with the question what is the distinctive character of thought and how does it manipulate an intelligible world, while the end of the chapter raises the question, which is more or less solved in the fifth chapter—How does the world come to be intelligible at all, and what is the origin of thought?

§ 3. 429^a 15. ἀπαθὲς ἄρα δεῖ εἶναι] There is here, of course, an apparent *non sequitur*, and Themistius would seem to have read ἐτέρων ἀπαθές. The contradiction, however, is merely on the surface. Aristotle is saying: Thought, like sense-perception, *receives* the objects with which it deals. But this receptivity though, from one point of view a passive state, is from another really *active*—it implies, in other words, a *power* of receiving objects, and is therefore not altogether passive. Just as the sense-impression is not merely an impression, but includes a spontaneous power of grasping the form apart from the matter, so also, but in a higher sense, the energy of thought, while affected by a body of contents, is able to act upon those contents and to rise above them. And so it is that Aristotle adds (429^a 29) that the ἀπάθεια of the faculty of thought is not the same as that of the faculty of sense.

429^a 18. ὥσπερ φησὶν Ἀναξαγόρας] Cp. Plato, *Cratylus*, 413 C, where Anaxagoras' νοῦς is called αὐτοκράτωρ καὶ οὐδενὶ μεμιγμένος.

429^a 18—27. ἀνάγκη ἄρα...νῦν δ' οὐθέν ἐστιν] Torstrik thinks that we have got here two versions of the same argument—the earlier version being contained in the words ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς...νῦν δ' οὐθέν ἐστιν,

the latter extending from ἀνάγκη ἄρα down to ὅτι δυνατόν. He gives, however, little by way of reason for this view: and it is difficult to see why both passages should not have a place in the treatise. The words ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς really expand the thought of the previous lines: and even if they do in some ways repeat the assertion of the previous lines, it seems no unreasonable proceeding for a metaphysical writer to claim the liberty of restating his conclusions.

429^a 20. παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλότριον καὶ ἀντιφράττει] Trendelenburg interprets this as if τὸ ἀλλότριον were the object and νοῦς the subject (mens ab Anaxagora aliena, i.e. a sua natura abhorrentia arcere dicitur), and Themistius similarly writes, κωλύσει γὰρ καὶ ἀντιφράξει τὸ ἐν-υπάρχον εἶδος τὰ ἄλλα ὥσπερ ἀλλότρια. But the whole context seems to require that τὸ ἀλλότριον should be taken as the subject. The metaphor is drawn from the way in which the light of one body obstructs and destroys the light of another: and just (Aristotle would seem to mean) as sunlight eclipses moonlight, the side light and radiance of a foreign unrational object would obstruct and interfere with the action of reason. Teichmüller (*Studien*, p. 333) refers to *Timaeus* 50 D, where Plato says that the primary matter of the universe must be devoid of form (ἄμορφον): because "if the matter were like any of the supervening forms, then when any opposite or entirely different nature was impressed the representation would be a bad one, because the matter would shine through" (κακῶς ἂν ἀφομοιοῖ τὴν αὐτοῦ παρεμφαίνον ὄψιν); but Aristotle's expression was more likely suggested by some metaphor of Anaxagoras himself. For the use of the word ἀντιφράττει in reference to an eclipse, cp. *Post. Anal.* II. 2, 90^a 15, τί ἐστὶν ἐκλειψις; στέρησις φωτὸς ἀπὸ σελήνης ὑπὸ γῆς ἀντιφράξεως. See also *De Coelo*, II. 13, 293^b 23.

429^a 23. λέγω δὲ νοῦν ᾧ διανοεῖται καὶ ὑπολαμβάνει ἡ ψυχὴ] διανοεῖται and ὑπολαμβάνει would seem to be opposed as process and result: διανοεῖσθαι being the logical method through which we go in discovering truth, ὑπολαμβάνειν the product of the mental operation. For a further account of ὑπόληψις, see Bonitz on *Metaphysics*, 981^a 7; Waitz *Organon*, I. 523; Biese, I. 211. The latter remarks that in Aristotle "ὑπολαμβάνειν, and especially ὑπόληψις, are the most general expressions for that activity of thought in which the mind becomes first conscious to itself of the distinction of truth and error." It is therefore frequently used in reference to an opinion not based on established principles of knowledge but adopted rather after much deep investigation. See *Meta.* 981^a 7, 982^a 6, and *Anal. Prior.* 67^b 22, where ὑπολαμβάνειν is combined with δοξάζειν. So 1073^a 17, ἡ περὶ τὰς ἰδέας ὑπόληψις would seem, as Waitz remarks, to imply a certain amount of contempt for the ideal theory.

§ 4. 429^a 27. καὶ εὖ δὴ οἱ λέγοντες τὴν ψυχὴν εἶναι τόπον εἰδῶν] The reference is to Plato and his followers. Against their theory Aristotle maintains that εἶδη are not ready made endowments—innate ideas—but a gradual accretion of the mind—that, in short, we are provided merely with such conditions of

thought as will enable us to frame ideas in connection with the gradual growth of our experience.

§ 6. 429^b 9. καὶ αὐτὸς δὲ αὐτὸν τότε δύναται νοεῖν] Themistius, after explaining the sense in which Aristotle accepts the Platonic description of reason as a place not to contain but to become ideas—οὐθ' οὕτω τόπος ὡς περιέχειν ἀλλ' ὡς γίνεσθαι πῶς ἂν νοεῖ καὶ ὧν αἰσθάνεται—continues as follows: "Such a potential reason is found even in children. When, however, starting from its occupation with the object of sense and with the images which sense leaves behind, it succeeds in tracking out the universal and in collecting the like in the unlike, such reason becomes thereupon more perfect in a manner corresponding to the scientific thinker. Such a thinker, after comprehending the propositions of science, is able by himself alone to work at each of them without the help of either teaching or practice from outside. Now in this second stage the reason is still potential, though it is not so to the same extent as it was prior to learning or to discovery. For there is implanted in it now a kind of eyesight previously non-existing, which enables it to perceive the like and unlike, the same and different, the congruous and incongruous. At this stage, then, the reason is able to think itself: for reason is no other than its thoughts: and thus when it becomes identical with its objects of thought, it may further be said to think itself."

§ 7. 429^b 10. ἐπεὶ δ' ἄλλο ἐστὶ τὸ μέγεθος καὶ τὸ μεγέθει εἶναι] The difference between the expressions here used has been fully discussed by Trendelenburg (*Rheinisches Museum* for 1828, pp. 457—483). Practically the difference would seem to amount to that between the abstract and the concrete, τὸ εἶναι with the dative being used to denote the essential and ideal character of an object. The phrase denotes the absence of any definite ὑποκείμενον, the exclusion of γένεσις, the essential and permanent characteristics which neither *become* nor pass away. In abstract conceptions, accordingly, the addition of εἶναι makes no difference—circle and the εἶναι of a circle are identical. The phrase accordingly becomes more or less equivalent to τὸ τί ἦν εἶναι; in fact, Aristotle would seem almost to use them as convertible. But while εἶναι with the dative is thus employed to express the essential abstract nature, it must be steadily remembered that, as used without a dative and absolutely, it means simply the manifestation, the determinate existence, the particular aspect or application. The following passages are of special value for discovering Aristotle's use of the expression: *Meta. Z.* 15, 1039^b 24, οὐ γίνεται τὸ οἰκία εἶναι ἀλλὰ τὸ τῆδε τῇ οἰκίᾳ—i.e. we cannot conceive the production (γένεσις) of a house in the abstract but simply in the case of a concrete individual house. *Meta. Z.* 1029^b 14, οὐ γὰρ τὸ σοὶ εἶναι τὸ μουσικῶς εἶναι' οὐ γὰρ κατὰ σαυτὸν εἰ μουσικός. On the other hand, in essentially abstract conceptions, the addition of τὸ εἶναι makes no difference. So *Meta. Z.* 11, 1037^a 34, it is said, ὅτι τὸ τί ἦν εἶναι καὶ ἕκαστον ἐπὶ τινῶν μὲν ταυτόν, ὥσπερ ἐπὶ τῶν πρώτων οὐσιῶν οἶον καμπυλότης καὶ καμπυλότητι εἶναι, εἰ πρώτη ἐστὶ (λέγω δὲ πρώτην ἢ μὴ λέγεται τῷ ἄλλο ἐν ἄλλῳ εἶναι καὶ ὑποκειμένῳ ὡς ὕλη) ὅσα δ' ὡς ὕλη ἢ ὡς συνειλημμένα τῇ ὕλῃ οὐ ταυτό,

οὐδ' ὅσα κατὰ συμβεβηκὸς ἔν, οἷον ὁ Σωκράτης καὶ τὸ μουσικόν' ταῦτα γὰρ ταῦτα κατὰ συμβεβηκός. Cp. also *Meta.* Z. 6, where there is said to be a difference between ἕκαστον and its τὸ τί ἦν εἶναι in the case of λεγόμενα κατὰ συμβεβηκός (incidentally concomitant conceptions) οἷον λευκὸς ἄνθρωπος ἕτερον καὶ τὸ λευκῷ ἀνθρώπῳ εἶναι : because, he adds, if they were the same, τὸ ἀνθρώπῳ εἶναι and τὸ λευκῷ ἀνθρώπῳ εἶναι would be one and the same. ἐπὶ δὲ τῶν καθ' αὐτὰ λεγομένων αἰεὶ ἀνάγκη ταυτὸν εἶναι.....ἀνάγκη ἄρα ἓν εἶναι τὸ ἀγαθὸν καὶ ἀγαθῷ εἶναι καὶ καλὸν καὶ καλῷ εἶναι ὅσα μὴ κατ' ἄλλο λέγεται ἀλλὰ καθ' αὐτὰ καὶ πρῶτα. Compare with this *Phys.* III. 5, τὸ γὰρ ἀπείρῳ εἶναι καὶ ἀπειρον τὸ αὐτό—a remark repeated in *Meta.* K. 10, 1066^b 13. See also *Metaphys.* H. 3, 1043^b 1, and *De Coelo*, I. 9.

429^b 12. ἐπ' ἐνίων γὰρ ταυτὸν ἔστι] The right punctuation of this clause, which, though Themistius had seen its true meaning, was generally connected with τὸ σαρκὶ εἶναι καὶ σάρκα, is due to Trendelenburg. The meaning of the exception is apparent from several passages quoted in the previous note, particularly *Metaphys.* Z. 11, where this is said to hold good of 'first substances,' οἷον καμπυλότης καὶ καμπυλότητι εἶναι.

429^b 16. ἀλλὰ δὲ ἥτοι χωριστῶ, ἢ ὡς ἡ κεκλασμένη ἔχει πρὸς αὐτὴν ὅταν ἐκταθῇ] The meaning of this must be that the relation between sense and thought in the building up of knowledge is one of *aspect* or degree, rather than of specific difference or kind. Just as it is one and the same line which is now extended and straight, now crooked and bent : so, similarly (Aristotle would seem to say) no matter whether the objects of our knowledge be abstract truths or concrete facts, the faculty remains fundamentally the same: only the sensuous side of mind is more prominent in the one case, the logical aspect in the other. And thus it would seem unnecessary to press the illustration further, and assign the bent line to the one application of our mind, the straightened line to the other faculty of cognition. Aristotle, that is, is simply saying: Sense and Reason, in the formation of experience, are no more distinct and separate faculties than are two lines, of which the one is merely the other bent, or the first-mentioned the other straightened. But the commentators have generally tried to explain the illustration further, and regarded the crooked line as corresponding with the perception of sense, the straight line as representing the cognition of reason. Thus Themistius (Spengel, p. 177), συνεξομοιοῦται γὰρ (ὁ νοῦς) τοῖς πράγμασιν ἃ θεωρεῖ καὶ ποτὲ μὲν ὥσπερ σύνθετος γίνεται ὅποταν τὸ σύνθετον νοῇ ποτὲ δὲ ὡς ἀπλοῦς ὅταν τὸ εἶδος ἐκλαμβάνῃ μόνον. But the remainder of his commentary rather departs from this idea by adding that Aristotle, in opposition to Plato, represents the activity of thought by a broken line—γίνεται γὰρ ἀνθ' ἐνὸς ὥσπερ διπλοῦς τηρικαῦτα ὅταν τὴν ὅλην συμπαρασκοπῇ τῇ μορφῇ. So that it would seem that it is as *comfounded of matter and form* that things, and thereby thought, may be likened to a broken line. Simplicius gives a Platonic rendering to the metaphor which seems far from likely to be intended. The bending or breaking of the line signifies, says Simplicius, the *μέθεξις* through which the concrete object (τὸ εἶδοσποιημένον) participates in its ideal form: so that

ἡ κεκλασμένη τὴν τῶν εἰδοποιημένων συστοίχων δηλοῖ γνώσιν· ἡ δὲ ἐκταθείσα ὡς ὀρθή καὶ ἀκαμπὴς τῆς τῶν ὄρων καὶ τελειοτήτων γνώσεως εἴληπται σύμβολον. Teichmüller (*Studien*, p. 492) reverses the ordinary application of the two kinds of lines mentioned. The straight line, he thinks, represents the action of sense as knowing things as isolated particulars, individual units; the bent or broken line represents the mode in which the mind *compresses* and gathers together its sensuous images into a *concept* through comparison. And he refers accordingly to the metaphor of the disordered line of soldiers (*Post. Anal.* II. 19) as embodying the same conception.

Something of bewilderment comes upon one in the midst of these different interpretations. Teichmüller's view would hardly seem to suit the facts, so far as Aristotle in the present chapter says little or nothing of the way in which the mind arrives at general ideas by abstraction and generalization. But he would almost seem right in regarding the bent line as corresponding to the *other* faculty—the non-sensuous faculty. And the meaning would therefore seem to be that sense and reason stand to one another in cognition as two processes, of which the one goes directly at its object, whereas the other returns upon itself. The mind, in other words, in knowing concrete phenomena, proceeds directly towards its objects: in its knowledge of the ideas of objects it returns back upon itself—it knows them only through a mental category, and thus recognizes itself as existing in things. In sense, in other words, the mind and the object lie apart—a straight line leads from one to the other, but there is no means of returning to the mind; in reason the object of knowledge, the essential idea, is itself rational, so that the mind *returns upon itself*.

§ 8. 429^b 18. πάλιν δ' ἐπὶ τῶν ἐν ἀφαιρέσει ὄντων] For Aristotle's view of abstract (and particularly mathematical) ideas, see the *Metaphys.* K. 3, 1061^a 28: *Phys.* II. 2, 194^a 10: *Post. Anal.* 79^a 7. In the present passage the straight line is regarded as actually expressed, and is therefore compared with the *σίμων* which is Aristotle's typical illustration of the concrete. see *Meta.* E. 1, 1025^b 30, τὸ μὲν σιμὸν συνειλημμένον ἐστὶ μετὰ τῆς ὕλης· ἔστι γὰρ τὸ μὲν σιμὸν κοίλη ρίς, ἡ δὲ κοιλότης ἀνευ ὕλης αἰσθητῆς.

429^b 19. μετὰ συνεχοῦς γάρ] These words of course simply explain why it is that the εὐθύ can be identified with τὸ σιμόν, viz. because it occupies space and is continuous.

429^b 20. ἔστω γὰρ δνός] It would seem simplest to understand these words in the way which Teichmüller has suggested. According to this interpretation the straight line is first of all a concrete embodiment of an idea, just as snubnosed is a concrete embodiment of hollowness: but, secondly, as conceived in its essential idea it is something different from mere continuous extent, and as such it is simple duality—that is, the abstract conception of the straight line is that of something between two points, and corresponding with duality. And the force of the comparison is then, as Teichmüller explains, that, just as in the sensuous sphere, we have *objectively* the concrete σάρξ, and the "idea of flesh" apprehended *sub-*

jectively by sense, and the generalizing faculty respectively, so in the field of mathematics, we have the simple straight line, and the abstract idea of straightness apprehended by geometrical intuition on the one hand, the more general arithmetical intuition on the other.

429^b 21. καὶ ὅλως ἄρα ὡς χωριστὰ τὰ πράγματα τῆς ὕλης, οὕτω καὶ τὰ περὶ τὸν νοῦν] This simply means that just as objectively we can distinguish between the form and the matter of concrete things, so subjectively we can draw a distinction between thought as it applies itself to sensible phenomena themselves, or to the essential conception of these phenomena.

§ 9. 429^b 22. ἀπορήσειε δ' ἂν τις, εἰ ὁ νοῦς ἀπλοῦν ἐστὶ...πῶς νοήσει] The question here raised by Aristotle is, How on the Anaxagorean conception of reason as something transcendent and uncombined with other things, is the thinking of things possible? For thinking, Aristotle goes on, implies community between subject and object—that is, implies a state of things just the reverse of that involved in the theory of Anaxagoras. And alongside with this necessity of regarding thought as a kind of πάσχειν which implies community, Aristotle passes (§ 10) to another fact which requires to be explained, the fact, viz. that thought itself can be an object of thought. And he would seem to mean that it is just in this second characteristic of our thought that we must find the solution of our difficulty. For either, he argues, thought must be thinkable by and through itself, and then supposing every object of thought to be homogeneous, we must reduce other things to thought, or if not thus thinkable by itself, we must regard it as deriving some ingredient from things which makes it thinkable and intelligible as they are. But (§ 11) Aristotle goes on to reject both of these alternatives, and without either reducing matter to thought, or thought to matter, insists simply on the presence of some community (κοινόν) between the two. Cp. the Introduction, pp. ci, cii.

§ 11. 429^b 29. ἥ τὸ μὲν πάσχειν κατὰ κοινόν τι] The unsatisfactoriness of this clause is very evident, and a not unreasonable suggestion would be to remove it altogether from the text as probably a repetition from 429^b 25. Aristotle's explanation would then be to the effect that reason to be thought, requires to have compounded with it some element or category which renders it intelligible in the same way as other things. The words which follow are not free from difficulty either. Usually διήρηται has been read: but the Aldine reading, διὸ εἴρηται seems to give a simpler meaning. Torstrik would read: ἥ τὸ μὲν πάσχειν καὶ ποιεῖν κατὰ κοινόν τι γίγνεται, ὁ δὲ νοῦς, ὥσπερ εἴρηται πρότερον, δυνάμει, κ.τ.λ.

§ 12. 430^a 2. αὐτὸς δὲ νοητός ἐστιν ὥσπερ τὰ νοητά] Cp. *Metaphys.* Λ. 7, 1072^b 20, αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ· νοητὸς γὰρ γίγνεται θιγγάνων καὶ νοῶν, ὥστε ταῦτὸν νοῦς καὶ νοητόν. τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς. Cp. 1075^a 5.

430^a 5. τοῦ δὲ μὴ αἰεὶ νοεῖν τὸ αἴτιον-ἐπισκεπτέον] To the question thus raised, Aristotle would seem to give no *direct* answer. The explanation which we must supply is, says Kampe, that the ideas (*Vorstellungen*) without

which the reason is unable to think are not always present, and this because their subject, the organ of the perceptive soul is exposed to the influences of the body, and is, as perishable, liable to exhaustion. But the real answer is probably contained in the following chapter, 430^a 22, where it is shewn that *νοῦς* as creative *does always* think.

CHAPTER V.

This chapter contains Aristotle's Theory of a creative Reason as an answer to the difficulty raised in the preceding chapter—How does thought (the rational) know things (the irrational). We must, Aristotle points out, distinguish between a thought which becomes all things, and a thought which makes all things, this creative thought being eternal and independent of the body. Cp. Introduction, p. civ.

§ 1. 430^a 13. ἀνάγκη καὶ ἐν τῇ ψυχῇ ὑπάρχειν] It is obvious from this that Aristotle's conception does not, immediately at least, refer to anything impersonal or transcendental.

430^a 15. τῷ πάντα ποιῖν...οἶον τὸ φῶς] Cp. Plato's comparison of the action of the ἰδέα τοῦ ἀγαθοῦ in the intellectual world to that of the sun in the visible world—*Republic*, 509 B, τὸν ἥλιον τοῖς ὁρωμένοις οὐ μόνον, οἶμαι, τὴν τοῦ ὁρᾶσθαι δύναμιν παρέχειν φήσεις, ἀλλὰ καὶ τὴν γένεσιν καὶ αὔξην καὶ τροφήν, οὐ γένεσιν αὐτὸν ὄντα. πῶς γάρ; καὶ τοῖς γιγνωσκομένοις τοῖνυν μὴ μόνον τὸ γιγνώσκεισθαι φάναι ὑπὸ τοῦ ἀγαθοῦ παρῆναι, ἀλλὰ καὶ τὸ εἶναι τε καὶ τὴν οὐσίαν ὑπ' ἐκείνου αὐτοῖς προσεῖναι, οὐκ οὐσίας ὄντος τοῦ ἀγαθοῦ, ἀλλ' ἔτι ἐπέκεινα τῆς οὐσίας πρεσβεῖα καὶ δυνάμει ὑπερέχοντος.

430^a 18. τῇ οὐσίᾳ ὧν ἐνεργείᾳ] Torstrik conjectures ἐνέργεια, an alteration which gets rid of the awkwardness of a double dative, but seems otherwise uncalled for. The dative no less than the nominative distinguishes this reason from the passive receptive reason, which, as Torstrik says, is realized and attains to ἐνέργεια only under the action of the *νοῦς ποιητικός*.

§ 2. 430^a 19. τὸ δ' αὐτὸ ἐστὶν ἢ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι...ὅλως δὲ οὐδὲ χρόνῳ] These same words are repeated at the beginning of chapter 7, 431^a 1—3, and the question arises, to which of the two passages do they naturally belong. We have hardly the data for answering the question. If we suppose that the *Psychology* is mainly the lecture-notes either of Aristotle himself, or of his auditors, it is perfectly explicable why he should have used the words in their present context, and also have repeated them as introductory to chapter 7. The passage in its present context would seem to mean that in the individual (ἐν τῷ ἐνὶ) the power of thinking precedes a *conscious* knowledge of the ultimate categories on which all thought depends. Yet what is last in this order of knowledge, is first in the order of nature: and so far as this is the case, the *νοῦς ποιητικός*, as the thought which makes the world thinkable, is always previously present.

430^a 21. ὅλως δὲ οὐδὲ χρόνῳ] Philoponus notes, τινὰ τῶν βιβλίων ἔχουσιν ὅλως, τινὰ δὲ ἅπλως. There would seem, however, to be no variations in the reading: but at the same time, ὅλως must be taken as antithetic to ἐν τῷ ἐνί, and, therefore, practically equivalent to ἅπλως. Cp. Philoponus: εἰπὼν ὅτι ὅλως δ' οὐ χρόνῳ ἀντὶ τοῦ ὅλῳ κόσμῳ καὶ ὅλως ἀντὶ τοῦ ὀλικῶς καὶ κοσμικῶς.

430^a 22. ἀλλ' οὐχ ὅτε μέν νοεῖ ὅτε δ' οὐ νοεῖ] Torstrik here removes the negative, and reads, ἀλλ' ὅτε μέν νοεῖ ὅτε δ' οὐ νοεῖ. His grounds for this are, first, that in 430^a 5, Aristotle has said we must investigate the reason, τοῦ μὴ αἰε νοεῖν, secondly, that common sense requires it ("quis enim homo sese putet semper cogitare"), thirdly, that the negative is omitted in one MS. W. And he concludes accordingly, that the rash interpolation of the negative is due to the "mad syncretism" of Platonists. But the second of Torstrik's reasons will only raise a smile in those accustomed to metaphysical thought: the third only shews that some copyist understood the passage as little as Torstrik himself: and the first only proves that Torstrik misunderstood Aristotle's conception of the place of a creative reason in the human mind. Aristotle is just answering here the difficulty raised in 430^a 5. Why, it was there said, don't we, if thought is identical with the object of thought, always think? And now comes the answer. We do always think—the work of thought which makes the world exist, can never be suspended for an instant—we don't think at one time, abstain from thinking at another time; but, and here comes the further explanation—οὐ μνημονεύομεν—the process is one which is in the main *unconscious*, and can, therefore, only be brought out by that effort of mental analysis, which few people care to make. Cp. Philoponus: οὐ γὰρ τὸν ἓνα τῷ ἀριθμῷ νοῦν λέγομεν αἰε νοεῖν ἀλλ' ὅτι ἐν ὅλῳ τῷ κόσμῳ ἀνθρώπινος νοῦς αἰε νοεῖ. And no doubt the passage contains by implication, a criticism of Plato's theory of ἀνάμνησις, and its corollaries. Aristotle, like Plato, is maintaining the eternity of thought: but whereas the latter held that all knowledge of the fundamental categories of the mind, was the result of reminiscence and recollection of a pre-existent state, Aristotle here roundly denies the possibility of such an act of memory.

430^a 25. καὶ ἄνευ τούτου οὐθὲν νοεῖ] It is a question whether the nominative to νοεῖ is the νοῦς παθ. or the νοῦς ποιητικός. Taking it as νοῦς ποιητικός, and understanding ἄνευ τούτου, as equivalent to νοῦ παθητικοῦ, the meaning will be that we have no recollection of the *a priori* work of thought as an eternal presupposition of our knowledge, because the creative reason which makes and contains these *a priori* and eternal truths never applies itself to intellectual work except through and with the subjective processes of cognition which perish with the individual. And this, it must be said, gives a satisfactory interpretation to the passage. But it seems simpler to take νοῦς παθ. as the subject: and to understand the meaning to be that the νοῦς παθ. cannot give this sense of eternity and immortality, because it is limited to the lifetime of the individual (φθαρτός), and is altogether of a relative dependent character—never being able to think and gain experience apart from the possession of the *a priori* conditions of our knowledge. Another

interpretation would be to regard *ἄνευ τούτου* as equivalent to *ἄνευ τοῦ φθαρτοῦ*, and translate the clause as follows—the receptive reason perishes with the individual, and never thinks or forms an experience without becoming subject to this perishable concomitant.

The Introduction has, it may be hoped, explained the sense in which I understand Aristotle's somewhat fragmentary conception of a creative reason and its place in experience. It only remains to supplement the short account given in the Introduction of the divergent views which commentators have held respecting Aristotle's words, by adding some short quotations from the writers themselves.

Theophrastus' view is preserved for us in *Themistius' Commentary* (Spengel, p. 198). He raises the question in what sense the *νοῦς* is *ἐξωθεν* while yet *συμφυής*, and answers: *ἀλλὰ τὸ ἐξωθεν ἄρα οὐχ ὡς ἐπίθετον ἀλλ' ὡς ἐν τῇ πρώτῃ γενέσει συμπεριλαμβανόμενον θεῖον*. He regards the two forms of reason as united together in human reason (*μικτὸν γάρ πως ὁ νοῦς ἐκ τε τοῦ ποιητικοῦ καὶ τοῦ δυνάμει*), and explains delusion and forgetfulness as arising from the union of the two. (Cp. Brandis, *Geschichte d. Philosophie*, III. i. p. 288.)

Eudemus, on the other hand, seems to regard the creative reason as something supernatural and godlike. H. 14, 1248^a 25: *τὸ δὲ ζητούμενον τοῦτ' ἐστί, τίς ἢ τῆς κινήσεως ἀρχὴ ἐν τῇ ψυχῇ. δῆλον δὲ, ὥσπερ ἐν τῷ ὅλῳ θεός, καὶ ἐν ἐκείνῳ. κινεῖ γάρ πως πάντα τὸ ἐν ἡμῖν θεῖον*.

Alexander's view is to a somewhat similar effect. The following passage extracted from Brentano explains his theory. *De Anim.* f. 144: *τοῦτο δὲ τὸ νοητὸν τε τῇ αὐτοῦ φύσει καὶ κατ' ἐνέργειαν νοῦς, αἴτιον γινόμενον τῷ ὕλικῳ νῷ τοῦ κατὰ τὴν πρὸς τὸ τοιοῦτον εἶδος ἀναφορὰν χωρίζειν τε καὶ μιμῆσθαι καὶ νοεῖν καὶ τῶν ἐνύλων εἰδῶν ἕκαστον καὶ ποιεῖν νοητὸν αὐτὸ, θύραθεν ἐστὶ λεγόμενος νοῦς ὁ ποιητικός, οὐκ ὡν μόριον καὶ δυνάμεις τις τῆς ἡμετέρας ψυχῆς, ἀλλ' ἐξωθεν γινόμενος ἐν ἡμῖν, ὅταν αὐτὸ νοῶμεν...χωριστὸς δὲ ἐστὶν ἡμῶν τοιοῦτος ὡν εἰκότως*.

CHAPTER VI.

The unity of thought in judgment would seem to be the main subject of this chapter. The writer begins by shewing that truth and falsity are not found in notions as such, but only as combined or divided. Still, he insists, such combination or division always involves a fundamental unity, and he expresses this at greater length by considering the different senses of the individual or indivisible. Lastly, he returns apparently to the standpoint of chapter five by shewing that the highest thought of all is free from this sense of combination and division, and having nothing opposed to it simply 'thinks itself.'

Themistius begins his paraphrase of the chapter in such a way as to make it carry on the distinction between creative and recipient reason, given in the preceding chapter. The connection, then, is that while the

creative reason as not combining notions but supplying notions to be combined is always true, the recipient reason as combining the ideas of the creative reason is liable to error. Thus, for example, the creative reason forms the ideas of substance, cause, effect, good, evil, &c.: in forming them it is true, and simply true: error arises when the receptive reason applies these νοητά and speaks of one thing as good, another thing as evil, or of one thing as cause, another set of facts as effect. Themistius may possibly be right; but it would seem that some words or sentences have also dropped out, either from the failure of the auditors to follow Aristotle's meaning, or from Aristotle himself having left his notes in an incomplete state.

§ 1. 430^a 26. ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές] Torstrick thinks that we have got here a duplicate of the introductory argument—thus:

ἡ μὲν οὖν τῶν ἀδιαίρετων νόησις ἐν τούτοις περὶ ἃ οὐκ ἔστι τὸ ψεῦδος.

Earlier Version.

τὸ γὰρ ψεῦδος ἐν συνθέσει αἰεὶ καὶ γὰρ ἂν τὸ λευκὸν μὴ λευκὸν τὸ μὴ λευκὸν συνέθηκεν. ἐνδέχεται δὲ καὶ διαίρεσιν φάναι πάντα. ἀλλ' οὖν ἔστι γε οὐ μόνον τὸ ψεῦδος ἢ ἀληθές, ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι ἦν ἢ ἔσται.

Later Version.

ἐν οἷς δὲ καὶ τὸ ψεῦδος καὶ τὸ ἀληθές, σύνθεσις τις ἤδη νοημάτων ὥσπερ ἐν ὄντων, καθάπερ Ἐμπεδοκλῆς ἔφη "ἢ πολλῶν μὲν κόρσαι ἀναύχενες ἐβλάστησαν" ἔπειτα συντίθεσθαι τῇ φιλίᾳ οὕτω καὶ ταῦτα κεχωρισμένα συντίθεται, οἷον τὸ ἀσύμμετρον καὶ ἡ διάμετρος. ἂν δὲ γενομένων ἢ ἐσομένων, τὸν χρόνον προσ-ενοῶν καὶ συντιθείς.

Vahlen, however (*Aristot. Aufsätze*, I.), has carefully analysed the passage and shewn that the two sections in question cannot be regarded as alternative versions of one another. Vahlen's points are mainly these: (1st) To pass at once from ἡ μὲν οὖν τῶν ἀδιαίρετων—οὐκ ἔστι τὸ ψεῦδος to τὸ γὰρ ψεῦδος ἐν συνθέσει is to conceal the chief thought of the chapter and to give it merely a secondary place. Secondly, the corresponding clause to ἡ μὲν οὖν can be found only in ἐν οἷς δέ. Thirdly, the remark οὐ μόνον τὸ ψεῦδος ἢ ἀληθές, ὅτι λευκὸς Κλέων ἐστίν, ἀλλὰ καὶ ὅτι ἦν ἢ ἔσται (in the earlier version) would come upon us with surprise without the suggestions of the 'later version,' ἂν δὲ γενομένων κ.τ.λ. Fourthly, the first section (Torstrick's later version) gives an explanation only of the σύνθεσις νοημάτων, the second passage (Torstrick's earlier version) gives a proof of the proposition τὸ ψεῦδος ἐν συνθέσει αἰεὶ—"two things which nowise overlap but reciprocally involve and supplement one another."

430^a 28. σύνθεσις τις ἤδη] For this use of ἤδη in Aristotle see Cope's *Rhetoric*, I. I, 7, with the parallel passages there quoted: "ἤδη and its analogues, ἔτι, οὐκέτι, οὕτω, are used emphatically to mark a critical point, climax, degree attained as deserving of special and particular attention at the moment and in reference to something else which is not equally remarkable."

430^a 31. οἷον τὸ ἀσύμμετρον καὶ ἡ διάμετρος] Torstrick here adds ἢ τὸ σύμμετρον καὶ ἡ διάμετρος. But, as Vahlen shews, Aristotle's object here is not to shew, as in 430^b 2, how σύνθεσις may be false as well as true, but

simply how the separate νοήματα pass by the help of σύνθεσις into an organic unity, much in the same way as the necks and heads in Empedocles' verses.

§ 2. 430^b 1. τὸν χρόνον προσεννοῶν καὶ συντιθείς] Torstrik has struck out καὶ συντιθείς on the ground that it is an unnecessary addition to προσεννοῶν. "Nam Cleonem et album συντίθεμεν si dicimus Κλέων λευκός ἐστιν : sin Κλέων λευκός ἦν vel ἔσται, προσεννοοῦμεν quidem tempus atque etiam προσσημαίνομεν sed non componimus tempus cum Cleone." But, as Vahlen has noted, συντιθείς is to be taken absolutely as equivalent to making a σύνθεσις just as προστιθέναι without any definite object means making a πρόσθεσις.

430^b 2. τὸ γὰρ ψεύδος ἐν συνθέσει ἀεί] This, as Vahlen has pointed out, refers not to the words immediately preceding but to the leading proposition of the section : ἐν οἷς καὶ τὸ ψεύδος καὶ τὸ ἀληθές σύνθεσις τις ἤδη νοημάτων ; cp. *De Interpret.* I, 16^a 12 : περὶ γὰρ σύνθεσιν καὶ διαίρεσιν ἐστὶ τὸ ψεύδος καὶ τὸ ἀληθές.

430^b 2. καὶ γὰρ ἂν τὸ λευκὸν μὴ λευκόν, τὸ μὴ λευκὸν συνέθηκεν] Such is the reading commonly accepted, and I have seen no reason to alter it. Trendelenburg had in his earlier edition struck out τὸ μὴ λευκόν, but, as Vahlen remarks, the sentence does not require to have anything struck out, but rather something added to it to complete the sense. Torstrik thinks that Aristotle must have written καὶ γὰρ ἂν τὸ λευκὸν οὐ λευκὸν καὶ τὸ μὴ λευκὸν λευκὸν συνέθηκεν : Trend., in his new edition, reads τὸ μὴ λευκὸν λευκὸν συνέθηκεν. But the vulgate would seem to make perfectly good sense if we supply λέγειν or νόη before τὸ μὴ λευκόν, and regard συνέθηκεν as the apodosis. The sentence will then run : Falsehood in fact always involves combination : even if the proposition assert white to be not white, it brings not-white into a combination : that is, even a strictly negative judgment (while involving separation, also) implies a combination of ideas.

430^b 3. ἐνδέχεται δὲ καὶ διαίρεσιν φάναι πάντα] Torstrik finds considerable difficulty in this πάντα and its meaning. "Quod enim ? omnia sunt διαίρεσις ? ὁ ἄνθρωπος ἐστὶ διαίρεσις ? τὸ λευκὸν διαίρεσις ? ἢ σύνθεσις διαίρεσις et sic in infinitum ?" He would accordingly read ταῦτα in place of πάντα. But πάντα may surely bear some such meaning as 'all such combinations'—all this work of forming negative propositions. From one point of view you may call it σύνθεσις : from another point of view you may call it διαίρεσις : for as Simplicius writes, οὐκ ἄνευ διαιρέσεώς ἐστι σύνθεσις. Cp. Themistius, p. 202, διαίρεσει γὰρ ἔοικεν ἡ ἀπόφασις, συνθέσει δὲ ἡ κατὰφασις· τάχα δὲ καὶ πάντα διαίρεσις· ἃ γὰρ ἡ φαντασία συγκεχυμένως παρὰ τῆς αἰσθήσεως ὑπεδέξατο, ὁ νοῦς διαίρει.

430^b 4. ἀλλ' οὖν ἔστι γε οὐ μόνον τὸ ψεύδος] Torstrik thinks this γε absurd and would expel it from the text. But the sentence evidently means 'anyhow'—whether we call this process σύνθεσις or διαίρεσις. And γε is just the particle which we want for expressing such a connection.

§ 3. 430^b 6. τὸ δ' ἀδιαίρετον ἐπεὶ διχῶς κ.τ.λ.] The object of this section would seem to be to elucidate further the simultaneously synthetic and analytic,

combining and dividing force of mind by a consideration of the relative character of the ideas of divisible and indivisible. More particularly the question is considered with reference to space and time, in order to shew that here also a unity of thought is possible in regard to that which is divided. For, as Kirchmann rightly explains, "everything spatial and temporal has a continuous extension and is therefore divisible—in fact, we may represent it as composed of parts which run into each other. It is therefore complex and manifold, and the question arises in regard to the thinking of this complex, whether the reason thinks this as one and how this happens—whether, in other words, we can think the duration of a minute without this minute actually running out, and whether generally we can conceive for ourselves periods of time in a single moment in spite of their extension in time. And so similarly, with regard to space, we are led to ask whether it, with its different extended parts, can be thought of momentarily by the mind. To such questions Aristotle here replies that we can conceive length and time both as undivided and as divided. Spatially or temporarily extended objects are only potentially simple and without parts—i.e. the reason can think them as simple and undivided, and when this happens the thought of such an extended object is simple and instantaneous. We can, however, think these objects as divided or separated or in the sequence of their parts: and when this takes place the object is actually divided (halved) in thought, so that the parts are conceived separately in succession." Voigt's translation is worth quoting, as shewing how the philosophy of Kant had coloured his interpretation of Aristotle. *Da das Untheilbare (die Formen der Sinnlichkeit und des Denkens) auf zweyerley Art so genannt wird: in Ansehung seiner Möglichkeit und in Ansehung seiner Wirksamkeit, so hindert nichts dass der Verstand zugleich das Untheilbare (die Formen) denkt, wenn er die Länge (äussere sinnliche Gegenstände) denkt.* And a foot-note explains Aristotle as meaning that, "If the understanding thinks external objects, the matter comes from outside: but the forms of reflection by which the thinkable is thought come from within."

430^b 7. οὐθὲν κωλύει νοεῖν τὸ ἀδιαίρετον] Torstrick reads here τὸ διαίρετόν ἢ ἀδιαίρετον. And this no doubt does somewhat simplify the passage: but the ordinary text is easy enough to interpret. Aristotle's point is that μήκος, which naturally implies parts and is thus διαίρετόν, can still at the moment of thought (ὅταν νοῇ is, as Trend. says, to be emphasized) be regarded as ἀδιαίρετον. There would thus seem to be no need to insert with Torstrick οἷον before ὅταν. Lastly, ἀδιαίρετον γὰρ ἐνεργείᾳ must be taken as parenthetical, and καὶ ἐν χρόνῳ ἀδιαίρετῳ as coordinate with νοεῖν τὸ ἀδιαίρετον.

430^b 9. ὁμοίως γὰρ ὁ χρόνος διαίρετός καὶ ἀδιαίρετος τῷ μήκει] Torstrick thinks that we have got here the *editio posterior* of that of which the *editio prior* is contained in 430^b 17, ἔνεστι γὰρ κἂν τοῦτοις τὸ ἀδιαίρετον...καὶ χρόνῳ καὶ μήκει, but as he gives few or no reasons for this view, it hardly admits of examination. Only it should be noted that the words ὁμοίως γὰρ κ.τ.λ. explain why thought does not only apply to an ἀδιαίρετον, but takes place

also ἐν χρόνῳ ἀδιαίρετον, whereas the words ἔνεστι γὰρ κὰν τοῖς explain why this 'undivided' thought applies also to what is εἶδει ἀδιαίρετον. Voigt, it may be added, explains the sentence as meaning that Time, the form of sense, may be regarded as indivisible, i.e. as an abstract form, and also as divisible, that is applied to objects of sense.

§ 4. 430^b 16. κατὰ συμβεβηκός δέ, καὶ οὐχ ἢ ἐκεῖνα διαίρετά] that is, to adopt Kirchmann's explanation, "in the conception of an extended surface or a figure as one, the circumstance that this takes place with one power and in one moment is thought not as belonging essentially to the object of conception: it is only the process of thought that is one."

430^b 14. ἀδιαίρετον τῷ εἶδει] Themistius illustrates by ἄνθρωπος or Σωκράτης. Such notions are thought ἀδιαίρετως. For, he explains, the one half of Socrates is not thought in one part, the other half in another part of time, οὐδὲ παρατείνεται τῇ διεξόδῳ τῆς λέξεως, δι' ἧς προφερόμεθα τὸ ἄνθρωπος, ἡ σύνθεσις τοῦ νοήματος.

430^b 17. ἔνεστι γὰρ κὰν τοῖς τι ἀδιαίρετον] Themistius comments: αἴτιον δὲ ὅτι ἐν πᾶσι τοῖς διαιρουμένοις ἔνεστί τι καὶ ἀδιαίρετον καὶ ἐν πᾶσι τοῖς συνθέτοις ἀπλοῦν.

430^b 21. δηλοῦται ὥσπερ ἡ στέρεσις] Translate: is known in the same way as its negative—that is, the point is known by wanting that continuity which marks the line.

430^b 23. δεῖ δὲ δυνάμει εἶναι τὸ γνωρίζον καὶ ἐν εἶναι ἐν αὐτῷ] This is the reading of LTVWX, Ald. Sylb., and would seem to make better sense than many of the other readings. Aristotle is discussing the objects of existence which are arrived at by division or distinction—such as the point, or good as distinguished from evil—and asking how they can be comprehended by thought whose essential character is unity and unification. To this he replies: Such objects are like negatives, and merely known by relation to that other which they are not. Thus, then, the mind in knowing them is potentially both, but at the same time it does not lose its unity—it remains ἐν ἐν αὐτῷ. Bekker and Trendelenburg read after Simplicius, ἐνεῖναι, but there is in that case a difficulty about the subject of the verb, Kirchmann, for instance, translating *die Gegentheile müssen in ihm enthalten sein*. Torstrick alters the passage into καὶ μὴ ἐν εἶναι αὐτῶν, i.e. the cognitive faculty must be potentially both, and not merely one or other of the relatives: and thinks the remark possibly directed against Plato, who held νοῦς to be ὁ ταῦτοῦ κυκλός. But for the introduction of μὴ there is no MS. authority whatever.

One alteration seems, however, desirable in the text of the chapter—to read μὴ κατὰ ποσὸν διαίρετόν instead of ἀδιαίρετον in line 14. The argument of the chapter, it must be remembered, is as follows. Reason expresses truth and falsehood by a combination of ideas, a combination which we may call division (διαίρεσις), but which, even as division, does not interfere with the unity of thought. For what appears objectively as division and analysis is apprehended mentally in unity and synthesis. It is so (§ 3) with what is

quantitatively divisible (for example, a line or space): it is so (§ 4) with what is *not quantitatively* but specifically divided: that also involves something *ἀδιαίρετον*.

Reading then in this way, τὸ μὴ κατὰ ποσὸν διαιρετόν, we can understand better why Aristotle in §§ 5 and 6 goes on to insist on the *unity* of thought as underlying even the apprehension of opposites and of the antithetic members of *division*.

430^b 24. εἰ δέ τιμι μὴ ἔστιν ἐναντίον τῶν αἰτίων] Thus far Aristotle has discussed the unity of thought and reason by shewing that even in dealing with what is divisible and divided or relative, thought involves an underlying unity. He now takes higher ground: and shews that a faculty of thought which has passed beyond the relativity of contraries returns as it were upon itself, and finds within itself the knowledge which a lower grade of knowledge gathers from outside. Perfect absolute thought, in other words, rises above the contradictions and the complementary categories of ordinary thought: the mind, as thinking, becomes identical with the world as thought, there is no chasm between the external and the internal, or the rational and the real. God's only thought is in Aristotle's own words the thinking of thought—νόησις νοήσεως.

§ 7. 430^b 26. ἔστι δ' ἡ μὲν φάσις τι κατὰ τινος, ὥσπερ ἡ κατάφασις] Torstrik argues that φάσις here cannot be received, because (1) if it is = ἀπόφανσις, Aristotle would have said, not ὥσπερ, but οἷον ἡ κατάφασις; (2) if φάσις is = κατάφασις, the word would not be repeated, and (3) if it is = simple ὄνομα or ῥῆμα, it would be incorrect to speak of a φάσις κατὰ τινος. He, therefore, writes ἔστι δ' ἡ μὲν κατάφασις τι κατὰ τινος, ὥσπερ καὶ ἡ ἀπόφασις. It is true that φάσις is scarcely used so strictly as in *De Interpret.* 4, 16^b 27: but there seems no great difficulty in understanding the passage as it stands.

430^b 28. ὁ τοῦ τί ἐστι κατὰ τὸ τί ἦν εἶναι ἀληθής] Aristotle means that pure thought, the thinking of immaterial conceptions in the light of their idea, is as true as the perception of the ἴδια αἰσθητά, and that falsehood only comes in when we assert one to be another. So Themistius, p. 206: καὶ ὁ νοῦς, ἔστ' ἂν μὲν ἴσθηται ἐπ' αὐτῆς τῆς ἐννοίας τοῦ τί ἦν εἶναι, οἷον τοῦ ἀγαθοῦ ἢ τοῦ καλοῦ ὡς τὰ πολλὰ ἀναμάρτητος καὶ ἀψευδῆς· ὅταν δὲ ἀγαθὸν τοῦτο λέγῃ καὶ τοῦτο καλὸν ἀλλοτριονομῇ πολλάκις. Cp. *Metaph.* E. 4, 1027^b 24.

CHAPTER VII.

The subject of this chapter is generally the way in which reason deals with its sensuous materials. It forms thus in some ways the transition to the analysis of will which follows in subsequent chapters: and deals, though not exclusively, with the practical side of reason. Action, in the form of desire and aversion, takes place when the sense does not merely perceive an object, but perceives it as pleasant or painful (§ 2). But (§ 3) this presence

of sensuous images is but the condition of our mental action, and presupposes throughout the unity of mind—a unity especially involved in the comparison and distinction of sensations (§ 4). There is, therefore, a close parallel between the practical and the speculative reason (§§ 5, 6), even when the latter applies itself to mathematical abstractions (§ 7), and, generally, reason is equivalent to its objects (§ 8).

§ 1. 431^a 1. τὸ δ' αὐτὸ ἐστὶν ἢ κατ' ἐνέγγειαν ἐπιστήμη τῷ πράγματι] These words form the direct continuation of the thoughts with which the sixth chapter closed. We have here in short the same conclusion as was reached in 430^b 25, αὐτὸ ἐαυτὸ γινώσκει—the identity of absolute thought with the contents of experience. The words, it has been already noticed, are the same as those used in chapter 5, but, though Themistius omits them, they were probably used by Aristotle in both passages. In chapter 5, they denoted the identity of the νοῦς ποιητικός with the νοητά which it supported: here they re-state this same truth with the greater fulness which the analysis of cognition in chapter 6 has rendered possible.

431^a 3. ἔστι γὰρ ἐξ ἐντελεχείας ὅντος πάντα τὰ γινόμενα] Cp. *Metaph.* Θ. 8, 1049^b 10, πάσης δὴ τῆς τοιαύτης προτέρα ἐστὶν ἢ ἐνέργεια καὶ λόγος καὶ τῇ οὐσίᾳ· χρόνος δ' ἔστι μὲν ὥς, ἔστι δ' ὡς οὐ. τῷ λόγῳ μὲν οὖν ὅτι προτέρα δῆλον· τῷ γὰρ ἐνδέχεσθαι ἐνεργῆσαι δυνατόν ἐστὶ τὸ πρῶτως δυνατόν, οἷον λέγω οἰκοδομικὸν τὸ δυνάμενον οἰκοδομεῖν καὶ ὁρατικὸν τὸ ὁρᾶν, καὶ ὁρατὸν τὸ δυνατόν ὁρᾶσθαι· ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων, ὥστ' ἀνάγκη τὸν λόγον προϋπάρχειν καὶ τὴν γνώσιν τῆς γνώσεως.

The drift of Aristotle's comparison of sense and reason is briefly that in sense the δύναμις stands first—the possibility of sense-perception is realized by its object; in intellect, on the other hand, while this is true relatively to individuals, ἀπλως and ὅλως—apart from individuals—everything depends to such an extent upon creative intellect, that ἐνέργεια may be said to precede the δύναμις—thought as the condition of experience must precede the faculty of thought which apprehends it.

§ 2. 431^a 9. οἷον καταφᾶσα ἢ ἀποφᾶσα] Cp. *Eth. Nic.* VI. 2, 1139^a 21, ἔστι δ' ὅπερ ἐν διανοίᾳ κατάφασις καὶ ἀπόφασις τοῦτ' ἐν ὀρέξει διώξις καὶ φυγή.

§ 3. 431^b 14. τῇ δὲ διανοητικῇ ψυχῇ τὰ φαντάσματα] Cp. *De Memor.* I, 449^b 31, νοεῖν οὐκ ἔστιν ἄνευ φαντάσματος, κ.τ.λ. For the general sense of the passage see the Introduction, p. cix.

431^a 17. ὥσπερ δὲ ὁ ἀήρ τὴν κόρην τοιανδί' ἐποίησεν] This passage would seem to mean that just as the action of the air is the medium of sight, but not more than a medium or condition, so similarly the φαντάσματα are merely the media or conditions of thought—vehicles through which thought operates, but not necessary conditions of its exercise. Thus the words τὸ δὲ ἔσχατον ἐν complete this position by holding that these φαντάσματα require to be referred to the unity of mind; in other words, they are merely the *materials* of knowledge, unmeaning apart from the synthetic action which elaborates them into something intelligible. But alongside of this cognitive reference comes the reference to will and its relation to perception.

And so the passage bears the further meaning, that the perceptions of sense only lead to action, and cause desire or aversion, in so far as they are regarded as good or evil: and similarly the *φαντάσματα* which stand to thought as impressions to sense will only lead to action when apprehended as good or evil. Now such *φαντάσματα* are invariable concomitants of thought; but we must remark that thought is no more to be resolved into the images of sense than sight into its physiological conditions: in both there is a central faculty which distinguishes and compares.

§ 4. 431^a 20. *τίνι δ' ἐπικρίνει τί διαφέρει γλυκὺ καὶ θερμόν*] About this passage Trendelenburg remarks—*ab instituto plane digreditur*. But it is evident that the passage is intended, however much it may fall short of its aim, to explain the unity in diversity involved in the relation of the mind and will to different presentations of sense. The question, in fact, how the mind is able to compare different *φαντάσματα*, or weigh different motives to action, is not unlike that of the comparison and distinction of different communications of sense. And it is only after Aristotle has settled this preliminary question that he can carry on the main thought of the chapter in the words of 431^b 2, *τὰ μὲν οὖν εἶδη τὸ νοητικὸν νοεῖ*.

§ 4. 431^a 21. *ἔστι γὰρ ἓν τι οὕτω δὲ καὶ ὡς ὅρος καὶ ταῦτα ἓν, κ.τ.λ.*] This paragraph is full of almost hopeless difficulties, and no commentator can be said to have given a satisfactory explanation of them. It will simplify the subject to exhibit first some of the explanations which have been proposed, and then add a word or two of general elucidation.

Torstrik's commentary is as follows: *ἔστι γὰρ ἓν τι*—i.e. the *μεσότης αἰσθητική* previously mentioned: *οὕτω δὲ* (as in the mind) *καὶ ἡ στυγμὴ καὶ ὄλως ὁ ὅρος* (numerically one while differing in operation) *καὶ ταῦτα* (i.e. the *γλυκὺ* and *θερμόν*) *ἐν τῷ ἀνάλογον* (each being the habitual extreme of its own *ἐναντίωσις* to which the privative extreme, i.e. bitter and cold, is contrary) *καὶ τῷ ἀριθμῷ ὃν ἔχει πρὸς ἐκάτερον ἐναντίον*. (For if hot be removed from cold by a certain interval, and this interval can be numerically stated, sweet will be removed from bitter by a corresponding interval, white from black, &c., and the numerical expression of this interval will be the same.) *τί γὰρ διαφέρει τὸ ἀπορεῖν πῶς τὰ μὴ ὁμογενῆ κρίνει ἢ τάναντία οἷον λευκὸν καὶ μέλαν*. (The original question related to those objects which, while not contained within the same genus, are analogically the same—e.g. hot and sweet. He now brings back this question to contraries contained within the same class, and proves that if white and black are at one and the same time presented to one and the same faculty, white and sweet will be so likewise.) *ἔστω δὲ ὡς τὸ Α τὸ λευκὸν πρὸς τὸ Β τὸ μέλαν, τὸ Γ (sweet, hot, &c.) πρὸς τὸ Δ (bitter, cold, &c.) ὡς ἐκεῖνα πρὸς ἄλληλα* (as white to black). *ᾧστε καὶ ἐναλλάξ* ($A : Γ = B : Δ$, i.e. white : sweet, hot, &c. = black : bitter, cold, &c.) *εἰ δὲ τὰ ΓΔ ἐνὶ εἴῃ ὑπάρχοντα* (suppose that there is in the mind that which is at one and the same time two contraries, or of which two contraries can be at one and the same time predicated) *οὕτως ἔξει* (the sensitive mean *τὸ ἓν* will hold itself in the same fashion) *ᾧσπερ καὶ εἰ τὸ ΑΒ* (supply in thought, *τούτῳ τῷ ἐνὶ ὑπῆρχεν*, as it

would hold itself if any other pair of contraries should be predicated of it) τὸ αὐτὸ μὲν καὶ ἓν (so that it is numerically one and the same) τῷ δ' εἶναι οὐ τὸ αὐτό (but different in aspect). κακέῖνα ὁμοίως. (After it has been shewn that when one pair of contraries has been perceived, another also will be perceived, it is evident in addition that two pairs of proportionate terms are perceived at one and the same time, if from the proportion $A : \Gamma = B : \Delta$ we return to the proportion $A : B = \Gamma : \Delta$ —*quod erat demonstrandum*: τί γὰρ διαφέρει τὸ ἀπορεῖν πῶς τὰ μὴ ὁμογενῇ κρίνει ἢ τάναντία, cp. 443^a 18) ὁ δ' αὐτὸς λόγος καὶ εἰ τὸ μὲν A τὸ γλυκὺ εἴη, τὸ δὲ B τὸ λευκόν.) Thus far we have supposed that the μεσότης αἰσθητική is at one and the same time a pair of contraries, white and black, or sweet and bitter, and hence we have deduced the perception of those qualities which are proportionally the same, white and sweet, or black and bitter. Now let us suppose that the sensitive mean is at one and the same time those things which are proportionally the same, sweet and white, or bitter and black, the same transposition of the proportion will lead to even contraries being perceived. The pre-supposition of the whole argument is, Torstrik further adds, that there is something (τὸ ἓν) in the mind which is really one and indivisible, but is diverse in its mode of action, and is adapted to receive at one and the same time different qualities—which being granted, the rest easily follows. Sed illud ipsum, dicat aliquis, κενολογεῖν ἐστὶ καὶ μεταφορὰς λέγειν μαθηματικὰς.

Philoponus takes Γ and Δ to refer to the *ideas* of which A and B are the objective counterparts. τὸ δὲ τρίτον καὶ τέταρτον ἀντὶ νοητῶν λαμβάνει, ἵνα ἢ τὸ μὲν τρίτον ὁ λόγος τοῦ λευκοῦ τὸ δὲ τέταρτον ὁ λόγος τοῦ μέλανος. And thus, Philoponus supposes Aristotle to reason, just as κοινὴ αἴσθησις knows the first and second terms of the series, οὕτω καὶ ὁ νοῦς οἶδε τὸ τρίτον καὶ τὸ τέταρτον, τοιούτεστι τοὺς λόγους τούτων.

This interpretation is also taken by Kampe (p. 109). There is—such is Kampe's explanation of the whole passage—a certain unity, and in this unity the different perceptions are also one—one in virtue of their reciprocal relation and the numerical formula of their combination, just as the corresponding outward objects. (The agreeable colours are combinations of black and white, λόγῳ καὶ κατ' ἀριθμούς, according to *De Sensu* 3, 439^b 19, and the pleasant flavours are combinations of sweet and bitter, κατὰ λόγον καὶ κατ' ἀριθμούς, 442^a 12.) Now it makes no difference relatively to this distinction, whether objects which are not homogeneous (τὰ μὴ ὁμογενῇ), such as sweet and warm, or those which are homogeneous, and therefore contrary, such as black and white, are taken into consideration. Take them, then, as homogeneous. A (white) and B (black), the objective pair, stand to one another in the same ratio as C and D, the subjective pair: and therefore, *alternando*, $A : C :: B : D$. If, then, C and D present themselves before our internal mental unity, they will resemble the condition of A and B, that is, they will be in unity, but their aspect or mode of existence will not be the same. And the same result holds good in case A and B do not belong to the same class,

This would seem to be the truer explanation of the passage. Had Aristotle meant by Γ and Δ the sweet and bitter as Torstrik supposes, he would surely have said so. The whole point of Aristotle's argument is that just as qualities can be united objectively in one thing, so they can be united subjectively in one act of thought: and just as an orange is *at once* yellow and fragrant, so similarly the two ideas of colour and odour can be held before the mind in one act of thought. Thus the solution here proposed is similar to that in *De Sensu*, c. 7: the only difference in fact is that the elucidation here is encumbered with a mathematical symbolism which really helps little to a simplification of the question. See *De Sensu*, 7, § 9, 449^b 13: ἡ ὥσπερ ἐπὶ τῶν πραγμάτων αὐτῶν ἐνδέχεται, οὕτω καὶ ἐπὶ τῆς ψυχῆς. τὸ γὰρ αὐτὸ καὶ ἐν ἀριθμῷ λευκὸν καὶ γλυκὺ ἐστὶ, καὶ ἄλλα πολλά, εἰ μὴ χωριστὰ τὰ πάθη ἀλλήλων, ἀλλὰ τὸ εἶναι ἕτερον ἐκάστω. ὁμοίως τοίνυν θετέον καὶ ἐπὶ τῆς ψυχῆς τὸ αὐτὸ καὶ ἐν εἶναι ἀριθμῷ τὸ αἰσθητικὸν πάντων, τῷ μέντοι εἶναι ἕτερον καὶ ἕτερον τῶν μὲν γένει τῶν δὲ εἶδει.

431^a 24. πῶς τὰ μὴ ὁμογενῇ] So in LSUX. μὴ is omitted in TVWY, and by Simplicius, Trend., and Bekker. If μὴ be left out, ὁμογενῇ must be regarded as *explanatory* of ἐναντία, and the sentence will mean: There is no difference between considering non-homogeneous qualities, such as sweet and hot, and considering qualities which are contraries, *or homogeneous*, i.e. comprehended under one and the same class.

§ 5. 431^b 2. τὰ μὲν οὖν εἶδη τὸ νοητικὸν νοεῖ] This would appear to go back to the statement in 431^a 15—20, and to mean that while, as stated in 15, φαντάσματα stands as αἰσθήματα to understanding, still the interpretation of these as good or evil (a 16) involves the recognition of them as general or typical εἶδη, and so implies the work of reason. This Aristotle further illustrates by the process of interpreting a war-beacon. Just as that, while immediately a merely sensuous phenomenon, becomes secondly a *symbol* or representative of an invasion, so similarly the presentations of sense have to be *translated* into the εἶδη of which they are the counterparts before they can become motives to action.

431^b 5. αἰσθανόμενος τὸν φρυκτὸν ὅτι πῦρ τῇ κοινῇ γνωρίζει] Torstrik would omit ὅτι πῦρ: but I agree with his "unintelligent interpolator" in thinking that the clause is intended to bring out the opposition between the perception of the ἴδια αἴσθησις to which the φρυκτὸς is merely πῦρ (or more strictly a coloured surface), and the κοινῇ αἴσθησις which in consequence of the movement of the flame interprets it to denote the approach of an enemy. Nor would there seem to be very good grounds for reading with the margin of the Basel edition κινήσει instead of κοινῇ. Movement may be the special condition through which the significance of the phenomenon in question is discovered, but the faculty of sense which discovers this significance is of wider scope than the particular concomitant of motion.

§ 7. 431^b 12. τὰ δὲ ἐν ἀφαιρέσει λεγόμενα νοεῖ] Torstrik regards this passage as hopelessly corrupt, and adds that the first part is more or less a repetition of c. 4, 429^b 8, while the second portion refers to a discussion

for which it is impossible to assign any reference. Confused, however, as the passage in some ways is, it would seem simply to continue the account of that work of reason with which the previous sections have been occupied. We have been told how the reason apprehends the ideas of desirable and undesirable in the presentations of the senses: we are now told how it apprehends mathematical abstractions. The abstraction, it is explained, is not quite complete: it is like trying to conceive the *σιμόν* not as concrete but as abstract: and yet mathematical conceptions are never entirely independent of a concrete representative—they are, in the language of the *Metaphysics*, *χωριστὰ ἀλλ' ὡς ἐν ὕλῃ*: and therefore mathematical thought *οὐ κεχωρισμένα ὡς κεχωρισμένα νοεῖ*—it is in fact *abstract* in a narrow sense, and makes an unreal separation between ideas and things. Thus, then, the mental act involved in mathematics is of a relative, imperfect nature. But reason, in the fuller and more general sense of the word, the writer goes on to say, is not of this narrowly abstract and therefore semi-sensuous character. Reason, as the thought of the ideas which give truth to things, deals at once with the form and the matter of cognition: it transcends the opposition of *ὕλη* and *εἶδος* in the conception of *ἐνέργεια*. And thus, as Simplicius says, the writer is again brought to the conception of reason as penetrating to the true idea and reality of things, and thus producing an identity between things and thought. *βούλεται μὲν καὶ νῦν ὅπερ πολλάκις προείπε τε καὶ αὐτὶς εἶρε ὑπομνήσαι, ὅτι πᾶς νοῦς ὅταν ἐνεργῇ ὁ αὐτὸς ἐστὶ τοῖς νοουμένοις καὶ ἔστιν ἅπερ τὰ νοουμένα.*

CHAPTER VIII.

This chapter discusses the connection between sense and thought, and shews that while reason is coextensive with the whole world of experience, it is still only in the world of sense that the world of thought is to be found. The two are not, as Plato had supposed, divided, but the ideas of reason only exist as embodied in material phenomena.

§ 2. 431^b 24. *τέμενται οὖν ἡ ἐπιστήμη καὶ ἡ αἴσθησις εἰς τὰ πράγματα*] Torstrik, unable to explain the 'monstrosity' of *εἰς τὰ πράγματα*, reads *ὡς περ τὰ πράγματα* on the suggestion of Themistius' interpretation (*τὰ ὄντα τοίνυν τὰ μὲν δυνάμει τὰ δὲ ἐνέργειά· οὕτω δὲ καὶ ἡ ψυχὴ τὰ μὲν δυνάμει εἶδη ἐστί, τὰ δὲ ἐνέργειά*), and further alters *εἰς τὰ δυνάμει* into *εἰς δυνάμεις* and *εἰς τὰ ἐντελεχεία* into *εἰς ἐντελεχείας*. But this alteration seems unnecessary.

431^b 27. *δυνάμει ταυτὰ ἐστί*] So the greater number of MSS. If *ταυτὸν* be read, it would seem better, with Prof. Chandler, to continue—*τὸ μὲν ἐπιστητῷ, τὸ δὲ αἰσθητῷ*.

432^a I. *ἡ ψυχὴ ὡς περ ἡ χεὶρ ἐστίν*] For the superiority of the hand over all other instruments, see *De Part. Anim.* IV. 10, 687^a 20: *ἡ δὲ χεὶρ ζοικεν εἶναι οὐχ ἐν ὄργανον ἀλλὰ πολλὰ ἔστι γὰρ ὡς περὶ ὄργανον πρὸ ὀργάνων*. The metaphor implies, as Trendelenburg says, the absolute priority of mind to all material things. Just as the hand is the instrument which, existing

previously to all other things, converts them all to use, so similarly mind, as the *εἶδος εἰδῶν*, is *πρότερον τῇ φύσει*. Cp. Themistius, who says: *μήποτε δὲ οὐ τῷ λαμβάνειν μόνον τὰ εἶδη πάντα λέγεται καλῶς εἶναι τὰ ὄντα ἢ ψυχῇ ἀλλὰ καὶ τῷ ἐντιθέναι τὰ εἶδη τῇ ὕλῃ*.

432^a 12. *τὰ δὲ πρῶτα νοήματα τίνι διοίσει;*] Trend. understands these *νοήματα* to be the highest conceptions, a quibus reliquae veritatem repetunt, and views the clause generally as a vindication of the non-sensuous character of the conceptions of the creative intellect. But, as Freudenthal (p. 13) says, Aristotle would not even problematically identify our highest ideas with *φαντάσματα*. At the same time the *πρῶτα νοήματα* are scarcely only unconnected ideas, like the *ἄπλα* of *Meta. E.* 4, 1027^b 27, without *συμπλοκὴ* of truth or falsehood: rather they are the earliest results of abstraction—the generalizations which lie closest to sensible phenomena.

432^a 14. *ἢ οὐδὲ τὰλλα φαντάσματα*] Torstrik would here read *ταῦτα*, and so get the meaning—not even these—not even our earliest and least generalized ideas are to be regarded as directly resulting from mere sensuous impressions. This no doubt simplifies the sense, but *τὰλλα*, the reading of all the MSS., may be accepted as meaning that our earliest ideas, as little as our more general ideas, are to be regarded as *φαντάσματα*. Of course, if *πρῶτα νοήματα* be taken to mean the most universal and fundamental ideas of the mind, *τὰλλα* will give the better sense as meaning that not even other ideas—not even ideas of less generality, are to be described as mere *φαντάσματα*.

CHAPTER IX.

This and the two following chapters discuss the motive and active powers of the mind. After some remarks (§§ 2, 3) on the extent to which we can speak of parts or faculties of mind, the writer goes on to shew that the motive faculty is to be found in neither the vegetative functions nor in the sensitive powers, nor in the reason taken by itself.

§ 1. 432^a 16. *τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστὶ καὶ αἰσθήσεως*] Cp. *De Motu Anim.* 9, 700^b 17, *ὁρῶμεν δὲ τὰ κινούμενα τὸ ζῶον διάνοιαν καὶ φαντασίαν καὶ προαίρεσιν καὶ βούλησιν καὶ ἐπιθυμίαν. ταῦτα δὲ πάντα ἀνάγεται εἰς νοῦν καὶ ὄρεξιν. καὶ γὰρ ἡ φαντασία καὶ ἡ αἴσθησις τὴν αὐτὴν τῷ νῷ χώραν ἔχουσιν· κριτικὰ γὰρ πάντα.*

§ 2. 432^a 25. *ἄ τινες λέγουσι διορίζοντες*] The reference is, of course, to Plato.

432^a 26. *οἱ δὲ τὸ λόγον ἔχον καὶ τὸ ἄλογον*] The distinction is in *Eth. Nic.* 1. 13 referred to the *ἐξωτερικοὶ λόγοι*.

432^a 30. *καὶ τὸ αἰσθητικὸν ὃ οὔτε ὡς ἄλογον οὔτε ὡς λόγον ἔχον θεὸν ἂν τις ῥαδίως*] This criticism would seem to make it probable that the popular psychology of *Eth. Nic.* 1. 13 is *not* Aristotle's own.

CHAPTER X.

The negative results of the preceding chapter are followed by a more positive theory of the origin of action. Desire and reason (under which imagination must be included) are the faculties which evidently lead to action. But they move in perfect unison with one another, both being directed to some end (§ 2), and this end or object of desire, whether a good of reason or a good of sense (§ 4), is that which regulates the conflict (§ 6) of reason and appetite. The process of moral action, in fact, is like a ball-and-socket joint, and the agent, while reaching forward under the influence of appetite, is continually being pulled in and regulated by the permanent standard of reason.

§ 1. 433^a 11. ἀκολουθοῦσι ταῖς φαντασίαις] Cp. *Eth.* VII. 3. 11, διὰ τοῦτο τὰ θηρία οὐκ ἀκρατῇ ὅτι οὐκ ἔχει τῶν καθόλου ὑπόληψιν ἀλλὰ τῶν καθ' ἕκαστα φαντασίαν καὶ μνήμην.

§ 2. 433^a 15. Torstrik discovers here a duplication of the text which he arranges as follows:—

ἄμφω ἄρα ταῦτα κινήτικα κατὰ τύπον, νοῦς καὶ ὄρεξις, νοῦς δὲ ὁ ἐνεκά του λογιζόμενος καὶ ὁ πρακτικός· διαφέρει δὲ τοῦ θεωρητικοῦ τῷ τέλει. καὶ ἡ ὄρεξις ἐνεκά του πάσα. ὥστε εὐλόγως ταῦτα δύο φαίνεται τὰ κινούντα, ὄρεξις καὶ διάνοια πρακτική.

Earlier Version: τὸ ὀρεκτὸν γὰρ κινεῖ, καὶ διὰ τοῦτο ἡ διάνοια κινεῖ ὅτι ἀρχὴ αὐτῆς ἐστὶ τὸ ὀρεκτόν.

Later Version: οὐ γὰρ ἡ ὄρεξις, αὕτη ἀρχὴ τοῦ πρακτικοῦ νοῦ.

τὸ δ' ἔσχατον ἀρχὴ τῆς πράξεως. καὶ ἡ φαντασία δὲ ὅταν κινή, οὐ κινεῖ ἄνευ ὀρέξεως. ἐν δὲ τι τὸ κινούν, τὸ ὀρεκτικόν. εἰ γὰρ δύο κ.τ.λ.

The two passages, however, would not seem to be the mere duplicates which Torstrik supposes them to be. They both, indeed, contribute to the proof of the same result, that reason and desire both lead to action: but they do so in different ways. In 15 Aristotle, after noting that both reason and desire stimulate to action, shews that this is true of reason because it, when directed to an end, becomes *πρακτικός*, and true of desire because desire is always relative to an end: it is just, in fact, its object which constitutes the principle of the practical reason, although Aristotle adds, parenthetically, the direct principle or beginning of action is some particular fact of sense. In lines 18 and 19, on the other hand, Aristotle is more occupied with shewing that reason and desire act *together* in leading to action, and that ultimately everything depends upon *ὄρεξις*, without which neither *φαντασία* nor *διάνοια* can lead to action.—It would seem unnecessary then to have recourse to the violent expedient of Pansch (*Philologus*, XXI. 543), and read οὐ γὰρ ἡ ὄρεξις αὕτη ἀρχὴ τοῦ πρακτικοῦ νοῦ. Were we to accept Pansch's conjecture the meaning would be: Desire is always directed to some end: for desire is not itself the principle or starting-point of practical reason: it is the ultimate fact which is itself the starting-point of action.—

In line 18 *ὀρεκτικόν*, which is read by the majority of MSS., would seem to be more correct than *ὀρεκτόν* (read by Trend. and Torstrik), as shewing that both *ὀρεξις* and *διάνοια* enter into action; and a word denoting the faculty seems more appropriate than one which denotes the object.

§ 3. 433^a 22. *κατὰ κοινὸν ἂν τι ἐκίνουν εἶδος*] Themistius paraphrases: ἄλλη ἂν τις δύναμις ὑπῆρχεν ἀμφοτέροις κοινή, ἥς ἀμφοτέρα κοινωνοῦντα ἐκίνει τὸ ζῶον ὡς τῷ δίποδι καὶ τῷ τετράποδι τὸ πόδας ἔχειν. And Aristotle's argument would seem to be to the following effect: *νοῦς* and *ὀρεξις* are not *two* separate faculties in producing action, because, if so, they would have to involve a common centre, they would have to exhibit a community of action in producing their results. But such community does not exist. Reason, indeed, involves desire, and action, *κατὰ λόγισμον*, is also *κατὰ βούλησιν*: but *ὀρεξις*, or at least *ἐπιθυμία*, shews no community of action with *λόγισμος*—in fact, the two are frequently in conflict.

433^a 25. *ἡ γὰρ ἐπιθυμία ὀρεξις τις ἐστίν*] Cp. *Torics*, VI. 3, 140^b 27, *ἡ ἐπιθυμία ὀρεξις τοῦ ἡδέος*, and *De Motu Anim.* 700^b 22, *βούλησις δὲ καὶ θυμὸς καὶ ἐπιθυμία πάντα ὀρεξις* ἡ δὲ προαίρεσις κοινὸν διανοίας καὶ ὀρέξεως ὥστε κινεῖ πρῶτον τὸ ὀρεκτόν καὶ τὸ διανοητόν.

§ 4. 433^a 28. *τὸ ἀγαθὸν ἢ τὸ φαινόμενον ἀγαθόν*] Cp. *Eth. Nic.* III. 4, where it is shewn that absolutely it is real good which is the object of wish, but relatively to individuals it is the apparent or phenomenal. Themistius explains that it is the *ἀληθινὸν ἀγαθόν* which excites *νοῦς*, the *φαινόμενον* that influences *ἐπιθυμία* and *θυμός*: and adds, *καὶ γὰρ τὸ ἡδὺ τηνικαῦτα φαίνεται ἀγαθόν, ὅταν κινῇ τὴν ἐπιθυμίαν ἢ τὸν θυμόν*.

433^a 29. *πρακτὸν δ' ἐστὶ τὸ ἐνδεχόμενον*] Cp. *Eth.* VI. 2, 1139^a 13, *οὐδεὶς δὲ βουλευέται περὶ τῶν μὴ ἐνδεχομένων ἄλλως ἔχειν*.

433^b 8. *ἡ δ' ἐπιθυμία διὰ τὸ ἥδη*] As Trendelenburg remarks, there is a distinct significance in using *ἥδη* instead of *νῦν*. 'Cupido enim non temporis punctum quod adest, sed quod instat intuetur.' *ἥδη*, in fact, implies that the object of appetite is so temporary that it has passed out of the present as soon as it has come within it.

§ 7. 433^b 13. *ἐπειδὴ δ' ἐστὶ τρία ἐν μὲν τὸ κινεῖν*] The same analysis of movement is to be found in *Phys.* VIII. 5, 256^b 14.

433^b 15. *ἔστι δὲ τὸ μὲν ἀκίνητον τὸ πρακτὸν ἀγαθόν*] Cp. *Metaph.* Λ. 7, 1072^a 26: *τὸ ὀρεκτόν καὶ τὸ νοητὸν κινεῖ οὐ κινούμενα. τούτων τὰ πρῶτα τὰ αὐτά. ἐπιθυμητὸν γὰρ τὸ φαινόμενον καλόν, βουλευτὸν δὲ πρῶτον τὸ ὄν καλόν. De Motu Anim.* 6, 700^b 35, *τὸ μὲν οὖν πρῶτον οὐ κινούμενον κινεῖ, ἡ δ' ὀρεξις καὶ τὸ ὀρεκτικὸν κινούμενον κινεῖ, τὸ δὲ τελευταῖον τῶν κινουμένων οὐκ ἀνάγκη κινεῖν οὐδέν*.

433^b 16. *κινεῖται γὰρ τὸ ὀρεγόμενον ἢ ὀρέγεται*] *κινούμενον* is read by ELSUVW Bekk., but *ὀρεγόμενον*, the reading of TX, seems required and is accepted by Trendelenburg.

433^b 20. *διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτοῦ*] This refers most probably to the treatise *De Motu Animalium*. Rose, however (*De Arist. Libr. Ordine*, p. 163), thinks the allusion is to the *Parva Naturalia*.

§ 8. 433^b 22. ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτό, οἷον ὁ γιγγλυμός] By the γιγγλυμός must be understood a ball-and-socket-joint, like that, for instance, of the elbow. There, beginning and end, are one—the forward movement in reaching forward starts just where the stationary centre ends—and similarly in moral action the moral category of the reason, the universal principle of conduct serves as the centre from which desire reaches forward to its end. Cp. *De Motu Animalium*, I, 698^a 14, φανερόν γάρ καὶ ἐπὶ τούτων ὅτι ἀδύνατον κινεῖσθαι μηδενὸς ἡρεμοῦντος, πρῶτον μὲν ἐν αὐτοῖς τοῖς ζώοις. δεῖ γὰρ ἂν κινῆται τι τῶν μορίων, ἡρεμεῖν τι. καὶ διὰ τοῦτο αἱ καμπαὶ τοῖς ζώοις εἰσὶν. ὥσπερ γὰρ κέντρον χρώνται ταῖς καμπαῖς, καὶ γίνεται τὸ ὅλον μέρος, ἐν ᾧ ἡ καμπή, καὶ ἐν καὶ δύο, καὶ εὐθὺ καὶ κεκαμμένον, μεταβάλλον δυνάμει καὶ ἐνεργείᾳ, διὰ τὴν καμπήν.

433^b 25. πάντα γὰρ ὥσει καὶ ἔλξει κινεῖται] Impulse on the one hand, attraction on the other, constitute the elements of movement. Cp. *De Motu Anim.* 730^a 20: τὰ δ' ἔργα τῆς κινήσεως ὥσις καὶ ἔλξις, ὥστε δεῖ τὸ ὄργανον αὐξάνεσθαι τε δύνασθαι καὶ συστέλλεσθαι.

CHAPTER XI.

This chapter connects itself closely with the preceding, and Philoponus rightly transcribes it without anything of the break which our traditional method of division renders necessary. φαντασία—the presentation of an idea to the mind—is, the tenth chapter had pointed out, the pre-supposition of a motive faculty: the present chapter asks how is this possible in the case of imperfect animals, and how does the mind compare and decide upon its different impressions.

§ 1. 434^a 4. ἡ ὥσπερ καὶ κινεῖται ἀορίστως] Philoponus explains: ἀόριστον δὲ καλεῖ τῶν ζωοφύτων τὴν κίνησιν, διὰ τὸ μὴ ὁμοίως συστέλλεσθαι τε καὶ διαστέλλεσθαι.

§ 2. 434^a 9. ὥστε δύναται ἐν ἐκ πλειόνων φαντασμάτων ποιεῖν] The point then of this section would seem to be that the conceptions and images of the mind are but the *materials* of will: we must further recognise an inward unity which compares and weighs the different impressions in our experience.

434^a 10. καὶ αἴτιον τοῦτο τοῦ δόξαν μὴ δοκεῖν ἔχειν, ὅτι τὴν ἐκ συλλογισμοῦ οὐκ ἔχει, αὕτη δὲ ἐκείνην] Torstrik thinks the words 'omni cum reliquis nexu carent.' This, however, is not really the case. Aristotle is shewing that the formation of an ὄρεξις as opposed to an ἐπιθυμία in man, implies that same power of comparison and judgment which he had already in c. 7 shewn to be an indispensable pre-supposition of attaining to the conception of good and evil, just as of true and false. Here, then, after shewing that the pursuit or choice of the stronger motive or preferable course of conduct involves such a synthetic power, he adds, parenthetically it is true but still in intimate connection with what precedes, that the animal as such displays

none of this work of comparison, it never out of a number of present impressions forms a general conception which shall be the major premise of a practical syllogism: it simply follows the impression of the moment: and so, while it displays a certain amount of reasonableness in its action, it is not credited with the possession of *δοξά* which implies the construction of generalities.

434^a 12. *νικᾷ δ' ἐνίστε καὶ κινεῖ τὴν βούλησιν*] This passage, which is very obscure, is amended by Torstrik as follows—*νικᾷ δ' ἐνίστε καὶ κινεῖ τὴν βούλησιν, ὅταν ἀκρασία γένηται· ὅτε δ' ἐκείνη ταύτην· ὅτε δ' ὥσπερ σφαῖραν σφαῖρα, ἢ ὄρεξις τὴν ὄρεξιν*. The passage can, however, I think, be translated as it stands, and the *τρεῖς φοραὶ* made out without any alteration of the text. The nominative to *νικᾷ* must be *αἰσθητικὴ φαντασία*: *ἐκείνη ταύτην* must be used quite generally and explained by *ὄρεξις ὄρεξιν*, while the third *φορά* must be that of *φύσει δ' αἰὲν ἢ ἄνω*. It is true that *ἀκρασία* is not in strict Aristotelian terminology applied to the conflict of successive desires: but Aristotle, we may suppose, could without any inconsistency describe the state of unsatisfied desire under the general name *ἀκρασία*.

434^a 13. *ὅτε δ' ἐκείνη ταύτην ὥσπερ σφαῖρα*] Themistius explains the passage as if it referred to the astronomical conception of a higher sphere or circle of constellations as influencing the movement of a lower cycle. His words are: *νικᾷ δ' ἐν ἀνθρώποις ποτὲ μὲν ἢ ἄλογος τὴν λογικὴν, ποτὲ δὲ τοῦμπαλιν, κινεῖ δὲ ἢ κρατοῦσα τὴν κρατουμένην, οὐ παύουσα τῆς ὀρμῆς ἀλλὰ συμπεριέργουσα ἑαυτῇ ὥσπερ ἐπὶ τῆς σφαῖρας τῆς οὐρανίας ἢ τῶν ἀπλανῶν τὴν τῶν πλανήτων οὐχ ἴσθησιν ἀλλὰ κινουμένη ἰδίαν κίνησιν ὁμοίως ἑαυτῇ συμπεριέργει*. Trendelenburg understands the passage in the same manner. According, then, to this explanation, Aristotle means that *βούλησις* or *βούλευσις* overcomes and regulates *ὄρεξις* or *ἐπιθυμία* much in the same way as the higher orbit among heavenly bodies transforms and governs the movements of a lower sphere. To this interpretation, however, several objections suggest themselves.

1. The metaphor, if this be its meaning, is unreasonably *obscure*. Even Aristotle's brevity could hardly have expected so much to be made out of a single word: and if the phrase is to bear Trendelenburg's meaning, we must at least read with Torstrik *ὥσπερ σφαῖραν σφαῖρα*.

2. So taken, it is *not relevant*—it does not explain the phenomena which Aristotle apparently intends it to illustrate. These phenomena are the characteristics of *ἀκρασία*, in which one desire succeeds and overcomes another *ad infinitum*, so that the incontinent is the plaything as it were of continually crossing and re-crossing influences. Trendelenburg only gets a suitable meaning out of the metaphor by taking it closely with the *ἢ ἄνω ἀρχικωτέρα* which follows.

3. The explanation of *σφαῖρα* as=heavenly orbit is *not consistent* with Aristotle's use of the same expression in another chapter of the *Psychology*. In II. 8, 419^b 27, Aristotle writes, *ἡχὼ γίνεται ὅταν πάλιν ὁ ἀῆρ ἀπωσθῇ ὥσπερ σφαῖρα*. In this passage it is undoubtedly to the *rebound* of a ball that an echo is compared.

The probability, then, is that in our present passage also it is a ball, which is the subject of the metaphor: and the meaning would seem to be that in the incontinent man, wanting as he is in all powers of self-control and moral government, impulse follows impulse, appetite takes the place of appetite, just in the same way as the ball passes from the hand of one player to another. So Plato in *Euthydemus*, 277 B, speaks of ὥσπερ σφαῖραν ἐκδεξάμενος τὸν λόγον.

§ 4. 434^a 16. ἐπεὶ δ' ἡ μὲν καθόλου ὑπόληψις] Cp. *De Motu Animal.* 7, 701^a 8: *Εἰδή.* VII. 3, 1147^a 25.

CHAPTER XII.

The twelfth and thirteenth chapters appear at first sight out of place after the chapters on thought and will which have preceded. In reality, however, they form a natural conclusion to the treatise on Psychology. Regarding everything from the point of view of its end or final causes, Aristotle after an analysis of the separate mental powers naturally comes to consider the mutual relation of those powers to one another and their fitness for the conditions of human life. The writer accordingly begins by shewing (§ 1) that the lowest form of soul is necessary for mere vitality, that sense-perception necessarily attaches to the animal, and ends by pointing out at greater length how the several senses contribute to the needs of life.

§ 3. 434^a 32. εἰ οὖν πᾶν σῶμα πορευτικὸν μὴ ἔχον αἰσθῆσιν] Trendelenburg suggests that we should here read ἔχοι, εἰ otherwise having no finite verb to which it may be referred, and the change is so slight that it ought perhaps to be adopted. Torstrik maintains that Aristotle is not refuting the supposition that any animal πορευτικόν can be without sense, but that any animals without sense are πορευτικά. He thinks accordingly that for πᾶν, εἴη or γένοιτο should be substituted.

§ 4. 434^b 4. ἀλλὰ μὴν οὐδὲ ἀγέννητον· διὰ τί γὰρ οὐχ ἔξει;] This passage has caused considerable difficulty to the commentators. Taken directly, the sequence of ideas would seem to be the following. Every body which possesses soul and reason possesses also sense. This proposition is at first limited to body, which is γέννητον, possessed of a beginning in time: but it is instantly suggested that the remark may be extended to the ἀγέννητον—the uncreated bodies of the heavens—because there is nothing to shew why they should not equally possess the faculties of sense. But here comes in the difficulty that Aristotle would not appear otherwise to assign the faculty of sense-perception to the stars. Trendelenburg accordingly regards οὐδὲ as accommodated more to the sense than to the laws of grammar, and so equivalent to ἀλλὰ μὴν οὐδὲ ἀγέννητον αἰσθῆσιν ἔχει. He translates the sentence accordingly: Nullum corpus, quod movetur, si anima gaudet et

mente, sensu caret, nisi immortalia eaque cœlestia corpora, quibus, si animantia sunt, sensus neque ad corporis neque ad mentis usum quicquam valeret. Similarly also Simplicius after noting, φαίνεται δὲ ὁ Ἀριστοτέλης μηδαμοῦ τὴν αἴσθησιν ἐπὶ τῶν οὐρανίων προσιέμενος, goes on to accept the explanation of Alexander that with ἀγέννητον we should supply αἴσθησιν : κάλλιον οἶμαι, ὃ Ἀλέξανδρος ἐξηγείται, τό, ἀλλὰ μὴν οὐδὲ ἀγέννητον, ἀξίῳ ἀκούειν πρὸς τὸ αἰσθῆσιν ἔχειν—ἀλλὰ μὴν οὐδὲ ἀγέννητον ἀναγκαῖον αἰσθῆσιν ἔχειν.

The words are certainly awkward, and might be profitably removed. They are found in all our MSS., but the note of Simplicius—ἐν τισι δὲ ἀντιγράφοις πρόσκειται τὸ ἀλλὰ μὴν οὐδὲ ἀγέννητον—points to MSS. in his day in which they were absent. It would seem, therefore, that Torstrick is not improbably right in regarding the clause as the addition of an interpolator who doubted whether Aristotle's limitation of the connection of sense with reason to the γέννητον was altogether tenable; or the words may be an unformed suggestion on the part of Aristotle himself.

Whether we regard the words as an integral part of the argument, or as a mere suggestion raised to be forgotten, there is at least no doubt that the correct reading in what follows must be, διὰ τί γὰρ οὐχ ἔξει as in TUVWY. For if we retain ἀλλὰ μὴν οὐδὲ ἀγέννητον, Aristotle asks why the uncreated should not have sense, and shews that the absence of sense cannot benefit it either in soul or body: if we reject the words ἀλλὰ μὴν οὐδὲ ἀγέννητον, or view them as strictly parenthetical, the words διὰ τί still ask, why should the γέννητον not possess αἴσθησις in the way the previous sentence has maintained. Torstrick in supplying νοῦν κριτικόν to διὰ τί γὰρ ἔξει would seem to miss the drift of Aristotle's reasoning.

§ 9. 434^b 31. καὶ τὸ ὧσαν ἕτερον ποιεῖ ὥστε ὁθεῖν] Torstrick here conjectures τὸ ὡσθέν, and adds—ridicule profecto τὸ ὧσαν: nam postquam pepulit, non jam pellit. The alteration somewhat simplifies the passage, but the vulgate can be defended if we regard ἕτερον as the accusative of ὧσαν, and then repeat ἕτερον after ποιεῖ.

435^a I. πλὴν ὅτι μένοντα ἐν τῷ αὐτῷ τόπῳ ἀλλοιοῖ] Bekker and Torstrick here read μένοντος. If μένοντος be accepted, we must supply τοῦ μέσου: μένοντα should be taken as accusative (with μέσα supplied) after ἀλλοιοῖ (scil. τις).

435^a 5. διὸ καὶ περὶ ἀνακλάσεως βέλτιον ἢ τὴν ὄψιν ἐξιούσαν ἀνακλᾶσθαι] The opinion in question is that of Empedocles and Plato. They, as we learn further from *De Sensu*, 2, 437^b 11, *Timaeus*, 45 C, explained vision as due to the fact that the eye was endowed congenitally with a fire, which after streaming from the eyes and mingling by its similarity of nature with the light of outward objects was finally again returned to the mind. Vision, then, was with these thinkers, the result of ἀνάκλασις—the fire of the eye was after contact with the fire of things thrown back again upon the organ of perception. Aristotle flatters himself that his own theory is much simpler. He conceives that the original object of vision makes an impression on some medium or other, and that thereafter this impression is transmitted in the

second instance to the eye, which is fitted to receive it (*αἰσθητικὸν εἶη τῷ ἐκείνῳ μὲν ὑπὸ τοῦ αἰσθητοῦ πάσχειν καὶ κινεῖσθαι αὐτὸ δ' ὑπ' ἐκείνου*). Thus the operation of perception is not unlike that of producing an impression in wax: only whereas the impression in wax does not continue to propagate itself after the object which produces the impression is removed, air is much more susceptible to impressions, and *ἐπὶ πλείστον κινεῖται*. Thus then, Aristotle concludes, we may compare the manner in which a visible object communicates its impressions through the air to the eye, to an impression in wax which passes through the wax to the outer surface of it, and leaves its final stamp upon the paper or other material on which the wax is placed (*ὥσπερ ἂν εἰ τὸ ἐν τῷ κηρῷ σημεῖον διεδίδото μέχρι τοῦ πέρατος*).

CHAPTER XIII.

This chapter sums up the results of the Psychology by shewing how the sense of touch is what determines ultimately the sensitive organism. It is touch (§ 1) which shews that the animal organism cannot consist of one element only: it is touch alone among the senses which coincides in its annihilation with the annihilation of life in general.

§ 1. 435^a 11. *ὅτι δ' οὐχ οἷόν τε ἀπλοῦν εἶναι τὸ τοῦ ζῴου σῶμα, κ.τ.λ.*] Aristotle's argument is to the following effect. Touch is requisite to animal existence: touch cannot be reduced to one single element (earth): therefore the animal body cannot be resolved into one single element. The main point of the argument lies, of course, in shewing that touch cannot, as might at first be thought, consist of only one element. To do this, Aristotle points out that all the other elements have been already used up in explaining the composition of the other organs of sense, which, however, produce perception mediately. Touch, however, produces perception by immediate contact: and therefore would have to be ascribed to earth alone. But earth alone is insufficient to explain its operation: it receives and perceives not only the difference of earth (hard and soft, &c.) but also the qualities of hot and cold. Thus then touch, the essential condition of animal life, cannot be composed of earth alone: and consequently the animal body cannot consist of one single element.

APPENDIX A.

THE ADDITIONAL VERSION OF MS. E.

The Paris MS. known as E contains the fragment of what Torstrick imagined to be a second alternative version of several passages of the *Psychology*. It may be useful to the student to have this second version printed alongside of the ordinary text.

THE ORDINARY TEXT.

I.

412^a 3—12.

B, I. § 1—3.

Τὰ μὲν δὴ ὑπὸ τῶν πρότερον παραδεδομένα περὶ ψυ-
χῆς εἰρήσθω· πάλιν δ' ὥσπερ ἐξ ὑπαρχῆς ἐπανίωμεν, πει-
5 ρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς ἂν εἴη κοινότατος
λόγος αὐτῆς. λέγομεν δὴ γένος ἔν τι τῶν ὄντων τὴν οὐσίαν,
ταύτης δὲ τὸ μὲν ὡς ὕλην, ὃ καθ' αὐτὸ μὲν οὐκ ἔστι τόδε
τι, ἕτερον δὲ μορφὴν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε
τι, καὶ τρίτον τὸ ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη δύναμις, τὸ
10 δ' εἶδος ἐντελέχεια, καὶ τοῦτο διχῶς, τὸ μὲν ὡς ἐπιστήμη,
τὸ δ' ὡς τὸ θεωρεῖν. οὐσίαι δὲ μάλιστ' εἶναι δοκοῦσι τὰ
σώματα, καὶ τούτων τὰ φυσικά· ταῦτα γὰρ τῶν ἄλλων ἀρχαί.

II.

414^b 13—416^a 8.

B, III. § 3—IV. § 7.

ὁ δὲ χυμὸς οἶον ἥδυσμά τι τούτων
ἐστίν. διασαφητέον δὲ περὶ αὐτῶν ὕστερον, νῦν δ' ἐπὶ τοσοῦτον
15 εἰρήσθω, ὅτι τῶν ζώων τοῖς ἔχουσιν ἀφὴν καὶ ὄρεξις ὑπάρ-
χει. περὶ δὲ φαντασίας ἄδηλον, ὕστερου δ' ἐπισκεπτέον. ἐνί-
οις δὲ πρὸς τούτοις ὑπάρχει καὶ τὸ κατὰ τόπον κινητικόν,
ἐτέροις δὲ καὶ τὸ διανοητικόν τε καὶ νοῦς, οἶον ἀνθρώποις καὶ
εἴ τι τοιοῦτον ἕτερόν ἐστιν ἢ καὶ τιμιώτερον. δῆλον οὖν ὅτι τὸν
20 αὐτὸν τρόπον εἰς ἂν εἴη λόγος ψυχῆς τε καὶ σχήματος.
οὔτε γὰρ ἐκεῖ σχῆμα παρὰ τὸ τρίγωνόν ἐστι καὶ τὰ ἐφεξῆς,
οὔτ' ἐνταῦθα ψυχὴ παρὰ τὰς εἰρημένας. γένοιτο δ' ἂν καὶ

THE ADDITIONAL VERSION.

I.

B, I. § 1—3.

E. fol. 186 v^o.

Ἐπεὶ δὲ τὰ παραδεδομένα περὶ ψυχῆς παρὰ τῶν ἄλλων,
 ἐφ' ὅσον ἕκαστος ἀπεφήνατο τῶν πρότερον, εἴρηται σχεδόν,
 νῦν ὥσπερ ἐξ ἀρχῆς πάλιν ἐπανίωμεν πειρώμενοι διορίσαι
 τί ἐστὶν ἡ ψυχὴ καὶ τίς ἂν εἴη λόγος αὐτῆς κονότατος (*sic*)
 χωρίζομεν δὴ τὰς μὲν οὐσίας ἀπὸ τῶν ὄντων τῶν ἄλλων· 5
 τῆς δὲ οὐσίας τὸ μὲν ὡς ὕλην λέγεσθαι τίθεμεν, ὃ καθ' αὐτὸ
 [The MS. is defective; Torstrik conjectures: μὲν οὐκ ἔστι τόδε
 τι, τὸ] δὲ ἡ μορφή, τὸ δ' ἐκ τούτων. ἔστι δ' ἡ μὲν ὕλη δυνάμει, τὸ
 δ' εἶδος ἐντελέχεια, αὕτη δ' ὑπάρχει διχῶς, ἡ γὰρ ὡς ἡ
 ἐπιστήμη, ἡ ὡς τὸ θεωρεῖν. οὐσίαι δὲ μάλιστα δοκοῦσιν 10
 εἶναι τὰ σώματα καὶ τούτων τὰ φυσικά· ἀρχαὶ γὰρ . . . At
 this point the MS. becomes imperfect, only the first four or
 five letters of each line being preserved on the one side, the
 last four or five on the other.

II.

B, III. § 3—IV. § 7.

E. fol. 1 r^o.

δὲ χυμὸς ὥσπερ ἡδυσμα τούτοις

ἐστίν·

διόπερ ὅσα ἔχει τῶν ζώων ἀφήν, πᾶσιν ὑπάρχει καὶ ὁ-
 ρεξίς. περὶ δὲ φαντασίας ἄδηλον καὶ ὕστερον ἐπισκεπτέον.
 ἐνίοις δὲ ταῦτά τε ὑπάρχει καὶ τὸ κατὰ τόπον κινητικόν,
 τοῖς δ' ἐπὶ (*sic*) πρὸς τούτοις διάνοια καὶ νοῦς, οἷον ἀνθρώπῳ καὶ 5
 εἴ τι ἄλλο ζῶον ἑτερόν ἐστι τοιοῦτον ἢ καὶ τιμιώτερον. δῆλον οὖν
 ὡς ὁμοίως σχήματος καὶ ψυχῆς εἰς ἂν εἴη λόγος.
 οὔτε γὰρ ἐκεῖ σχῆμα παρὰ τρίγωνόν ἐστι καὶ τὰ ἐφεξῆς,
 οὔτ' ἐνταῦθα ψυχὴ παρὰ τὰς εἰρημένας. γένοιτο δ' ἂν καὶ

The Ordinary Text.

ἐπὶ τῶν σχημάτων λόγος κοινός, ὃς ἐφαρμόσει μὲν πᾶσιν
 ἴδιος δ' οἰδενός ἔσται σχήματος. ὁμοίως δὲ καὶ ἐπὶ ταῖς
 25 εἰρημέναις ψυχαῖς. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον καὶ
 ἐπὶ τούτων καὶ ἐφ' ἐτέρων, ὃς οὐδενός ἔσται τῶν ὄντων ἴδιος
 λόγος, οὐδὲ κατὰ τὸ οἰκείον καὶ ἄτομον εἶδος, ἀφέντας τὸν
 τοιοῦτον. παραπλησίως δ' ἔχει τῷ περὶ τῶν σχημάτων καὶ
 τὰ κατὰ ψυχὴν· αἰεὶ γὰρ ἐν τῷ ἐφεξῆς ὑπάρχει δυνάμει
 30 τὸ πρότερον ἐπὶ τε τῶν σχημάτων καὶ ἐπὶ τῶν ἐμψύχων,
 οἷον ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῷ δὲ τὸ θρεπτι-
 κόν. ὥστε καθ' ἕκαστον ζητητέον, τίς ἐκάστου ψυχῆ, οἷον τίς
 φυτοῦ καὶ τίς ἀνθρώπου ἢ θηρίου. διὰ τίνα δ' αἰτίαν τῷ ἐφε-
 415^a ξῆς οὕτως ἔχουσι, σκεπτέον. ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ τὸ
 αἰσθητικὸν οὐκ ἔστιν· τοῦ δ' αἰσθητικοῦ χωρίζεται τὸ θρεπτι-
 κόν ἐν τοῖς φυτοῖς. πάλιν δ' ἄνευ μὲν τοῦ ὁπτικοῦ τῶν ἄλλων
 αἰσθήσεων οὐδεμία ἵπάρχει, ἀφῆ δ' ἄνευ τῶν ἄλλων ὑπάρ-
 5 χει· πολλὰ γὰρ τῶν ζώων οὐτ' ὄψιν οὐτ' ἀκοὴν ἔχουσιν
 οὐτ' ὁσμῆς αἰσθησιν. καὶ τῶν αἰσθητικῶν δὲ τὰ μὲν
 ἔχει τὸ κατὰ τόπον κινητικόν, τὰ δ' οὐκ ἔχει. τελευταῖον
 δὲ καὶ ἐλάχιστα λογισμὸν καὶ διάνοιαν· οἷς μὲν γὰρ ὑπ-
 ἄρχει λογισμὸς τῶν φθαρτῶν, τούτοις καὶ τὰ λοιπὰ πάντα,
 10 οἷς δ' ἐκείνων ἕκαστον, οὐ πᾶσι λογισμὸς, ἀλλὰ τοῖς μὲν
 οὐδὲ φαντασία, τὰ δὲ ταύτη μόνῃ ζῶσιν. περὶ δὲ τοῦ θεωρη-
 τικοῦ νοῦ ἕτερος λόγος. ὅτι μὲν οὖν ὁ περὶ τούτων ἐκάστου
 λόγος οὗτος οἰκειότατος καὶ περὶ ψυχῆς, δῆλον.

IV. Ἀναγκαῖον δὲ τὸν μέλλοντα περὶ τούτων σκέψιν ποιεῖ-
 15 σθαι λαβεῖν ἕκαστον αὐτῶν τί ἐστιν, εἴθ' οὕτως περὶ τῶν ἔχο-
 μένων ἢ καὶ περὶ τῶν ἄλλων ἐπιζητεῖν. εἰ δὲ χρὴ λέγειν τί ἕκα-
 στον αὐτῶν, οἷον τί τὸ νοητικόν ἢ τὸ αἰσθητικόν ἢ τὸ θρεπτι-
 κόν, πρότερον ἔτι λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι·
 πρότεραι γάρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι καὶ αἱ πράξεις κατὰ
 20 τὸν λόγον. εἰ δ' οὕτως, τούτων δ' ἔτι πρότερα τὰ ἀντικείμενα
 δεῖ θεωρηκέναι, περὶ ἐκείνων πρῶτον ἂν δεοί διορίσαι διὰ τὴν
 αὐτὴν αἰτίαν, οἷον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ. ὥστε
 πρῶτον περὶ τροφῆς καὶ γεννήσεως λεκτέον· ἢ γὰρ θρεπτικῇ
 ψυχῇ καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη

The Additional Version.

ἐπὶ τῶν σχημάτων λόγος, ὃς ἐφαρμόσει μὲν πᾶσιν, 10
οὐκ ἔσται μέντοι τοιδος (*sic*) οὐθενὸς σχήματος. ἰμοίως δὲ καὶ ἐπὶ
ταῖς εἰρημέναις ψυχαῖς. διὸ γελοῖον ζητεῖν τὸν κοινὸν λόγον καὶ
ἐπ' ἄλλων καὶ ἐπὶ τούτων, ὃς οὐκ ἔσται οὐθενὸς τῶν ὄντων ἴδιος,
οὐδὲ κατὰ τὸ οἰκεῖον καὶ ἄτομον εἶδος, τὸν τοιοῦτον ἀφέντας.
παραπλησίως δὲ ὥσπερ καὶ ἐπὶ τῶν σχημάτων, ἔχει καὶ τὰ 15
περὶ τὴν ψυχὴν· αἰεὶ γὰρ ἐν τῷ ἐφεξῆς ὑπάρχει δυνάμει τὸ πρότε-
ρον ἐπὶ τε τῶν σχημάτων καὶ ἐπὶ τῶν ἐμφύχων, λέγω δ' ὥσπερ
ἐν τετραγώνῳ μὲν τρίγωνον, ἐν αἰσθητικῷ δὲ τὸ θεραπεῖον (*sic*). ὥστε
καὶ καθ' ἕκαστον δεῖ ζητεῖν τίς ἢ ἐκάστου ψυχῇ, οἷον τίς φυτοῦ
καὶ τίς ἀνθρώπου καὶ τῆς (*sic*) θηρίου. διὰ τίνα δ' αἰτίαν τῷ 20
ἐφεξῆς οὕτως ἔχουσι, σκεπτέον. ἄνευ μὲν γὰρ τοῦ θρεπτικοῦ οὐ-
θέν ἐστὶν αἰσθητικόν· τοῦ δ' αἰσθητικοῦ χωρίζεται τὸ θρεπτι-
κόν, οἷον ἐν τοῖς φυτοῖς. πάλιν δ' ἄνευ τοῦ ἀπτικοῦ οὐδεμία
τῶν ἄλλων αἰσθήσεων, ἀφ' ἧς δ' ἄνευ τῶν ἄλλων ὑπάρ-
χει· πολλὰ γὰρ ἐστὶ τῶν ζώων, ἃ οὐτ' ὕψιν ἔχει οὐτ' ἀκοήν. 25
καὶ τῶν αἰσθητικῶν δὲ κίνησις τοῖς μὲν ὑπάρχει
τοῖς δ' οὐκ (*sic*) ὑπάρχει· τελευταῖον
δεδιακα (*sic*) λογισμός· οἷς μὲν γὰρ ὑπ-
άρχει λογισμός, καὶ τῶν ἄλλων ἕκαστον τῶν εἰρημένων,
οἷς δ' ἐκείνων ἕκαστον, οὐ πᾶσιν ὑπάρχει λογισμός. ἀλλὰ τὰ 30
μὲν οὐδὲ φαντασίαν ἔχει μόνον.
ὅτι μὲν οὖν ὁ περὶ τούτων ἐκάστου
λόγος οἰκειότατος περὶ ψυχῆς ἐστι, δῆλον.

IV. Ἀνάγκη δὲ τὸν περὶ τούτων μέλλοντα πραγματεύεσθαι
λαβεῖν τί ἕκαστον αὐτῶν ἐστὶν, εἴθ' οὕτω περὶ τῶν ἔχο- 35
μένων καὶ τῶν ἄλλων ποιείσθαι τὴν ἐπίσκεψιν. εἰ δὲ δεῖ
λέγειν τί ἕκαστον, οἷον τί τὸ νοητικὸν ἢ τί τὸ αἰσθητικὸν ἢ
θρεπτικόν, πρότερον λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι·
αἱ γὰρ πράξεις καὶ αἱ ἐνέργειαι πρότεραι κατὰ τὸν λόγον
εἰσὶ τῶν δυνάμεων. ἀλλὰ μὴν εἴ γε ταῦτα, πρότερον 40
ἔτι τούτων διοριστέον τὰ ἀντικείμενα,
οἷον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ διὰ τὴν αὐτὴν
αἰτίαν. ὥστε πρῶτον περὶ τροφῆς καὶ γεννήσεως λεκτέον·
αὕτη γὰρ ἡ ψυχὴ καὶ τοῖς ἄλλοις ὑπάρχει, πρώτη δὲ καὶ κοινοτάτη

The Ordinary Text.

25 δύνάμις ἐστὶ ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν. ἥς ἐστὶν
 ἔργα γεννῆσαι καὶ τροφῇ χρῆσασθαι· φυσικώτατον γὰρ τῶν
 ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα, ἢ τὴν γένε-
 σιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἶον αὐτό, ζῶον μὲν
 ζῶον, φυτὸν δὲ φυτόν, ἵνα τοῦ αἰεὶ καὶ τοῦ θείου μετέχωσιν ἢ
 415^b δύνανται· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου ἕνεκα πράττει
 ὅσα πράττει κατὰ φύσιν. [τὸ δ' οὐ ἕνεκα διττόν, τὸ μὲν οὐ, τὸ
 δὲ φ.] ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ αἰεὶ καὶ τοῦ θείου τῇ συν-
 εχείᾳ, διὰ τὸ μηδὲν ἐνδέχασθαι τῶν φθαρτῶν ταὐτὸ καὶ ἐν
 5 ἀριθμῷ διαμένειν, ἢ δύνатаι μετέχειν ἕκαστον, κοινωνεῖ
 ταύτῃ, τὸ μὲν μᾶλλον τὸ δ' ἥττον· καὶ διαμένει οὐκ αὐτὸ
 ἀλλ' οἶον αὐτό, ἀριθμῷ μὲν οὐχ ἓν, εἶδει δ' ἓν. ἔστι δὲ ἡ
 ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ ἀρχή. ταῦτα δὲ πολ-
 λαχῶς λέγεται. ὁμοίως δ' ἡ ψυχὴ κατὰ τοὺς διωρισμένους
 10 τρόπους τρεῖς αἰτία· καὶ γὰρ ὅθεν ἡ κίνησις αὐτῇ, καὶ οὐ
 ἕνεκα, καὶ ὡς ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ
 αἰτία. ὅτι μὲν οὖν ὡς οὐσία, δῆλον· τὸ γὰρ αἴτιον τοῦ εἶναι
 πᾶσιν ἡ οὐσία, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι ἔστιν, αἰτία δὲ
 καὶ ἀρχὴ τούτων ἡ ψυχὴ. ἔτι τοῦ δυνάμει ὄντος λόγος ἡ
 15 ἐντελέχεια. φανερόν δ' ὡς καὶ οὐ ἕνεκεν ἡ ψυχὴ αἰτία,
 ὥσπερ γὰρ ὁ νοῦς ἕνεκά του ποιεῖ, τὸν αὐτὸν τρόπον καὶ
 ἡ φύσις, καὶ τοῦτ' ἔστιν αὐτῇ τέλος. τοιοῦτον δ' ἐν τοῖς ζῴοις
 ἡ ψυχὴ κατὰ φύσιν· πάντα γὰρ τὰ φυσικὰ σώματα τῆς
 ψυχῆς ὄργανα, καὶ καθάπερ τὰ τῶν ζῴων, οὕτω καὶ τὰ
 20 τῶν φυτῶν, ὡς ἕνεκα τῆς ψυχῆς ὄντα. διττῶς δὲ τὸ οὐ
 ἕνεκα, τό τε οὐ καὶ τὸ φ. ἀλλὰ μὴν καὶ ὅθεν πρῶτον ἡ
 κατὰ τόπον κίνησις, ψυχὴ· οὐ πᾶσι δ' ὑπάρχει τοῖς ζῶσιν
 ἡ δύναμις αὕτη. ἔστι δὲ καὶ ἀλλοιώσις καὶ αὔξησις κατὰ
 ψυχὴν· ἡ μὲν γὰρ αἰσθησις ἀλλοιώσις τις εἶναι δοκεῖ, αἰ-
 25 σθάνεται δ' οὐθέν ὃ μὴ ἔχει ψυχὴν. ὁμοίως δὲ καὶ περὶ
 αὔξησέως τε καὶ φθίσεως ἔχει· οὐδὲν γὰρ φθίνει οὐδ' αὔξεται
 φυσικῶς μὴ τρεφόμενον, τρέφεται δ' οὐθέν ὃ μὴ κοινωνεῖ
 ζωῆς. Ἐμπεδοκλῆς δ' οὐ καλῶς εἴρηκε τοῦτο, προστιθεὶς τὴν
 αὔξησιν συμβαίνειν τοῖς φυτοῖς κάτω μὲν συρριζούμενοις
 416^a διὰ τὸ τὴν γῆν οὕτω φέρεσθαι κατὰ φύσιν, ἄνω δὲ διὰ τὸ

The Additional Version.

ψυχῆς ἐστὶ δύναμις, καθ' ἣν ὑπάρχει τὸ ζῆν πᾶσις (*sic*). ἥς ἔργον 45
 ἐστὶ γέννησις καὶ τὸ χρῆσθαι τροφῇ· τοῦτο γὰρ ἔργον μάλιστα
 φυσι (*sic*) πᾶσι τοῖς ζῶσιν, ὅσα μὴ ἀτελῆ ἢ πηρώματά ἐστιν,
 ἢ αὐτόματον ἔχει τὴν γένεσιν, τὸ ποιῆσαι οἶον αὐτὸ ἕτερον,
 ζῶον μὲν ζῶα, φυτὸν δὲ φυτά, ἵνα τοῦ αἰὲ καὶ τοῦ θείου μετέχη
 ἕκαστον ὃν δύναται τρόπον· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου 50
 ἕνεκα πράττει ὅσα πράττει κατὰ φύσιν. τὸ γὰρ οὐ ἕνεκα διττόν,
 τὸ μὲν οὐ, τὸ δὲ ᾧ· ἐπεὶ οὖν οὐ τῇ συνεχείᾳ τοῦ αἰὲ καὶ τοῦ
 θείου δύναται κοινωνεῖν· οὐ γὰρ ἐνδέχεται τὸ αὐτὸ αἰὲ ἀριθμῶ
 εἶναι οὐθὲν τῶν φθαρτῶν· ὃν τρόπον ἐπιβάλλει, τοῦτον ἕκαστον
 οἰγγανει (*sic*), τὸ μὲν μᾶλλον, τὸ δὲ ἥττον· καὶ διαμένει οὐκ αὐτό, 55
 ἀλλ' οἶον αὐτό, ἀριθμῶ μὲν οὐχ ἓν, εἶδει δ' ἓν. ἔστι δ' ἡ
 ψυχὴ ἀρχὴ τοῦ ζῶντος σώματος, ἀλλ' ἡ ἀρχὴ καὶ τὸ αἷτιον
 λέγεται πολλαχῶς. ὁμοίως δ' ἡ ψυχὴ τοὺς τρεῖς τρόπους αἰτία
 τοὺς διωρισμένους· καὶ γὰρ ὅθεν ἡ κίνησις καὶ οὐ ἕνεκα
 καὶ ὡς οὐσία τῶν ἐμψύχων σωμάτων ἐστὶν ἡ ψυχὴ. 60
 ὅτι μὲν οὖν ὡς οὐσία δῆλον· τοῦ γὰρ εἶναι ἡ οὐσία αἷτιον
 πᾶσι, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναι ἐστίν, αἷτιον δὲ
 καὶ ἀρχὴ ἡ ψυχὴ τούτου ἐστίν.
 φανερόν δὲ καὶ ὡς τὸ οὐ ἕνεκα ἡ ψυχὴ·
 καὶ γὰρ ἡ φύσις ἕνεκά του ποιεῖ ὥσπερ ὁ νοῦς, 65
 καὶ τοῦτ' ἐστίν αὐτῆς τὸ τέλος. καὶ ἡ ψυχὴ τοιοῦτον
 ἐν τοῖς κατὰ φύσιν, καὶ πᾶν τὸ σῶμα ὄργανον τῇ
 ψυχῇ· ὥσπερ δὲ τὸ τῶν ζώων, καὶ τὸ
 τῶν φυτῶν.
 ἀλλὰ μὴν καὶ ὅθεν ε(*sic*) κίνησις πρῶτον ἡ 70
 κατὰ τόπον, τοῦτό ἐστι ψυχὴ· ἀλλ' οὐ πᾶσι τοῖς ζώοις
 ἡ τοιαύτη ὑπάρχει δύναμις. ἔτι δ' ἀλλοίωσις καὶ αὐξήσις κατὰ
 ψυχὴν· ἡ μὲν γὰρ αἰσθησις δοκεῖ τις ἀλλοίωσις εἶναι, μὴ
 ἔχον δὲ ψυχὴν οὐθὲν ἂν αἰθοιτο (*sic*). ὁμοίως δὲ καὶ περὶ
 αὐξήσεως καὶ φθίσεως ἔχει· οὐθὲν γὰρ αὐξάνεται οὐδὲ φθίνει 75
 φυσικῶς μὴ τρεφόμενον, οὐδὲ τρέφεται μὴ ζωῆς μετέχον.
 ἀλλὰ τοῦτο Ἐμπεδοκλῆς οὐκ εἴρηκεν ὀρθῶς, προστιθεὶς τὴν
 αὐξήσιν συμβαίνειν τοῖς φυτοῖς κάτω μὲν διὰ τὸ τὴν γῆν
 φύσει οὕτω φέρεσθαι, ἄνω δὲ διὰ τὸ πῦρ.

The Ordinary Text.

πῦρ ὡσαύτως. οὔτε γὰρ τὸ ἄνω καὶ κάτω καλῶς λαμβά-
 νει· οὐ γὰρ ταῦτ' ὁ πᾶσι τὸ ἄνω καὶ κάτω καὶ τῷ παντί,
 ἀλλ' ὡς ἡ κεφαλὴ τῶν ζώων, οὕτως αἱ ῥίζαι τῶν φυτῶν,
 5 εἰ χρή τὰ ὄργανα λέγειν ἕτερα καὶ ταῦτ' αὖ τοῖς ἔργοις.
 πρὸς δὲ τούτοις τί τὸ συνέχον εἰς τὰναντία φερόμενα τὸ πῦρ
 καὶ τὴν γῆν; διασπασθήσεται γάρ, εἰ μὴ τι ἔσται τὸ κω-
 λῦσον· εἰ δ' ἔσται, τοῦτ' ἔστιν ἡ ψυχὴ καὶ τὸ αἷτιον τοῦ
 αὐξάνεσθαι καὶ τρέφεσθαι.

III.

421^a 5—422^a 23.

B, VIII. § 12—X. § 3.

5 ὅτι οὐ δέχονται τὸν αέρα οὐδ' ἀνα-
 πνέουσιν. δι' ἣν μὲν οὖν αἰτίαν, ἕτερός ἐστι λόγος.

IX. Περὶ δὲ ὁσμῆς καὶ ὁσφραντοῦ ἦττον εὐδιόριστόν ἐστι
 τῶν εἰρημένων· οὐ γὰρ δῆλον ποῖόν τί ἐστιν ἡ ὁσμή, οὔτως ὡς
 ὁ ψόφος ἡ τὸ χρῶμα. αἷτιον δ' ὅτι τὴν αἴσθησιν ταύτην οὐκ
 10 ἔχομεν ἀκριβῆ, ἀλλὰ χεῖρω πολλῶν ζώων· φαύλως γὰρ ἄν-
 θρωπος ὁσμᾶται, καὶ οὐθενὸς αἰσθάνεται τῶν ὁσφραντῶν ἄνευ
 τοῦ λυπηροῦ ἢ τοῦ ἰδέος, ὡς οὐκ ὄντος ἀκριβοῦς τοῦ αἰσθη-
 τηρίου. εὐλογον δ' οὕτω καὶ τὰ σκληρόφθαλμα τῶν χρωμά-
 των αἰσθάνεσθαι, καὶ μὴ διαδήλους αὐτοῖς εἶναι τὰς δια-
 15 φορὰς τῶν χρωμάτων πλὴν τῷ φοβερῷ καὶ ἀφόβῳ. οὕτω
 δὲ καὶ τὰς ὁσμάς τὸ τῶν ἀνθρώπων γένος· ἔοικε μὲν γὰρ
 ἀνάλογον ἔχειν πρὸς τὴν γεῦσιν καὶ ὁμοίως τὰ εἶδη τῶν
 χυμῶν τοῖς τῆς ὁσμῆς, ἀλλ' ἀκριβεστέραν ἔχομεν τὴν γεῦ-
 σιν διὰ τὸ εἶναι αὐτὴν ἀφήν τινα, ταύτην δ' ἔχειν τὴν αἰ-
 20 σθησιν τὸν ἀνθρωπὸν ἀκριβεστάτην· ἐν μὲν γὰρ ταῖς ἄλλαις
 λείπεται πολλῶν τῶν ζώων, κατὰ δὲ τὴν ἀφήν πολλῶ τῶν
 ἄλλων διαφερόντως ἀκριβοῖ. διὸ καὶ φρονιμώτατόν ἐστι τῶν
 ζώων. σημεῖον δὲ τὸ καὶ ἐν τῷ γένει τῶν ἀνθρώπων παρὰ

The Additional Version.

οὔτε γὰρ τὸ κάτω καὶ ἄνω λαμβάνει ὀρθῶς· 80
οὐ γὰρ τὸ αὐτὸ ἐκάστου τὸ ἄνω καὶ τὸ κάτω καὶ τοῦ παντός·
ἀλλ' ὡς ἡ κεφαλὴ τῶν ζώων, οὕτως ἡ ῥίζα τῶν φυτῶν ἐστίν·
τὸ δὲ αὐτὸ δεῖ λέγειν ὄργανον, ὧν ἂν ᾗ τὸ αὐτὸ ἔργον.
ἔτι δὲ τί τὸ συνέχον εἰς τάναντία φερομένων ;

τοῦτο γὰρ αἴτιον τὸ τῆς αὐξήσεως καὶ τροφῆς· εἰ δὲ μή, 85
οὐθὲν κωλύσει δι — —

III.

B, VIII. § 12—X. § 3.

E. fol. II r^o.

ὅτι οὐ δέχονται τὸν ἀέρα οὐδ' ἀνα-
πνεύουσιν. δι' ἣν δ' αἰτίαν ἕτερος ἔσται περὶ αὐτῶν λόγος.
Περὶ δὲ ὁσμῆς καὶ τοῦ ὁσφραντοῦ οὐκ ἔστι ῥάδιον διορίσαι ὁμοίως
τοῖς εἰρημένοις αἰσθητοῖς, τί ἐστίν ἡ ὁσμὴ οὕτως ὡς ὁ ψόφος καὶ τὸ
φῶς, αἴτιον δ' ὅτι οὐκ ἔχομεν ἀκριβῆ ταύτην τὴν 5
αἴσθησιν, ἀλλὰ χεῖριστα ὁσμᾶται ἄνθρωπος τῶν ζώων,
καὶ οὐδεμίαν ἄνευ
τοῦ λυπηροῦ καὶ ἡδέος δύναται αἰσθῆσθαι ὁσμὴν, ὡς τοῦ αἰσθη-
τηρίου ὄντος οὐκ ἀκριβοῦς. ὥσπερ οὖν τοῖς σκληροφθάλμοις
ἀδήλους εἰκὸς εἶναι τὰς διαφορὰς τῶν χρωμάτων καὶ 10
συγκεχυμένας, ἀλλὰ τῷ φοβερῷ καὶ τῷ ἀφόβῳ διορίζει μόνον,
οὕτω καὶ τὰ περὶ τὰς ὁσμάς τοῖς ἀνθρώποις, ἐπεὶ ἔοικέ
τε ἀνάλογον ἔχειν πρὸς γεῦσιν καὶ ὅμοια τὰ εἶδη τῶν
χυμῶν τοῖς τῆς ὁσμῆς, ἀλλὰ τὴν γεῦσιν ἔχομεν ἀκριβεστέραν
διὰ τὸ εἶναι ἀφήν τινα· αὐτὴν δ' ἔχει τὴν αἰ- 15
σθησιν ἀκριβεστάτην ἄνθρωπος· ἐν μὲν γὰρ ταῖς ἄλλαις
λείπεται πολλῶν ζώων, τῶν δ' ἀπτῶν αἰσθάνεται
μάλιστα ἀκριβῶς. διὸ καὶ φρονιμώτατον τῶν ζώων
ἐστίν. σημεῖον δέ· καὶ γὰρ αὐτῶν τῶν ἀνθρώπων

The Ordinary Text.

τὸ αἰσθητήριον τοῦτο εἶναι εὐφνεῖς καὶ ἀφνεῖς, παρ' ἄλλο
 25 δὲ μηδέν· οἱ μὲν γὰρ σκληρόσαρκοι ἀφνεῖς τὴν διάνοιαν,
 οἱ δὲ μαλακόσαρκοι εὐφνεῖς. ἔστι δ', ὥσπερ χυμὸς ὁ μὲν
 γλυκὺς ὁ δὲ πικρὸς, οὕτω καὶ ὁσμά. ἀλλὰ τὰ μὲν ἔχουσι
 τὴν ἀνάλογον ὁσμήν καὶ χυμόν, λέγω δὲ οἶον γλυκεῖαν
 ὁσμήν καὶ γλυκὺν χυμόν, τὰ δὲ τούναντίον. ὁμοίως δὲ καὶ
 30 δριμεῖα καὶ αὐστηρὰ καὶ ὀξεῖα καὶ λιπαρὰ ἐστὶν ὁσμή.
 ἀλλ' ὥσπερ εἴπομεν, διὰ τὸ μὴ σφόδρα διαδήλους εἶναι
 τὰς ὁσμὰς ὥσπερ τοὺς χυμούς, ἀπὸ τούτων εἴληφε τὰ ὀνό-
 421^b ματα καὶ ὁμοιότητα τῶν πραγμάτων· ἡ μὲν γὰρ γλυκεῖα
 ἀπὸ τοῦ κρόκου καὶ τοῦ μέλιτος, ἡ δὲ δριμεῖα θύμον καὶ τῶν
 τοιούτων· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. ἔστι δ'
 ὥσπερ ἡ ἀκοή καὶ ἐκάστη τῶν αἰσθήσεων, ἡ μὲν τοῦ ἀκουστοῦ
 5 καὶ ἀνηκούστου, ἡ δὲ τοῦ ὁρατοῦ καὶ ἀοράτου, καὶ ἡ ὁσφρη-
 σις τοῦ ὁσφραντοῦ καὶ ἀνοσφράντου. ἀνοσφραντον δὲ τὸ μὲν
 παρὰ τὸ ὅλως ἀδύνατον ἔχειν ὁσμήν, τὸ δὲ μικρὰν ἔχον
 καὶ φαύλην. ὁμοίως δὲ καὶ τὸ ἀγευστον λέγεται. ἔστι δὲ
 καὶ ἡ ὁσφρησις διὰ τοῦ μεταξὺ, οἶον ἀέρος ἢ ὕδατος· καὶ
 10 γὰρ τὰ ἔνυδρα δοκοῦσιν ὁσμῆς αἰσθάνεσθαι. ὁμοίως δὲ καὶ
 τὰ ἔναιμα καὶ τὰ ἄναιμα, ὥσπερ καὶ τὰ ἐν τῷ ἀέρι· καὶ
 γὰρ τούτων ἔνια πόρρωθεν ἀπαντᾷ πρὸς τὴν τροφήν ὕψισμα
 γινόμενα. διὸ καὶ ἄπορον φαίνεται, εἰ πάντα μὲν ὁμοίως
 ὁσμάται, ὁ δ' ἄνθρωπος ἀναπνέων μὲν, μὴ ἀναπνέων δὲ
 15 ἀλλ' ἐκπνέων ἢ κατέχων τὸ πνεῦμα οὐκ ὁσμάται, οὔτε
 πόρρωθεν οὔτ' ἐγγύθεν, οὔδ' ἂν ἐπὶ τοῦ μυκτῆρος ἐντὸς τεθῇ.
 καὶ τὸ μὲν ἐπ' αὐτῷ τιθέμενον τῷ αἰσθητηρίῳ ἀναίσθητον
 εἶναι κοινὸν πάντων· ἀλλὰ τὸ ἄνευ τοῦ ἀναπνεῖν μὴ αἰσθά-
 νεσθαι ἴδιον ἐπὶ τῶν ἀνθρώπων· δήλον δὲ πειρωμένοις. ὥστε
 20 τὰ ἄναιμα, ἐπειδὴ οὐκ ἀναπνέουσιν, ἑτέραν ἂν τιν' αἰσθησιν
 ἔχοι παρὰ τὰς λεγομένας. ἀλλ' ἀδύνατον, εἴπερ τῆς ὁσ-
 μῆς αἰσθάνεται· ἡ γὰρ τοῦ ὁσφραντοῦ αἰσθησις καὶ δυσώδους
 καὶ εὐώδους ὁσφρησίς ἐστιν. ἔτι δὲ καὶ φθειρόμενα φαίνεται
 ὑπὸ τῶν ἰσχυρῶν ὁσμῶν ὑφ' ὧν περ ἄνθρωπος, οἶον ἀσφάλ-
 25 του καὶ θείου καὶ τῶν τοιούτων. ὁσφραίνεσθαι μὲν οὖν ἀναγ-
 καῖον, ἀλλ' οὐκ ἀναπνέοντα. ἔοικε δὲ τοῖς ἀνθρώποις διαφέ-

The Additional Version.

εὐφυεῖς, οἱ δ' ἀφυεῖς εἰσὶ παρ' οὐδὲν αἰσθητήριον ἕτερον 20
 ἀλλὰ παρὰ τοῦτο. ὦν μὲν γὰρ ἡ σὰρξ μαλακή, εὐφυεῖς, οἱ δὲ
 σκληρόσαρκοι ἀφυεῖς τὴν διάνοιαν. ἔστι δ' ὥσπερ χυμὸς ὁ μὲν
 γλυκὺς ὁ δὲ πικρὸς, καὶ ὁσμαι τὸν αὐτὸν ἔχουσαι τρόπον. ἀλλὰ
 τὰ μὲν ἔχει τὴν ἀνάλογον ὁσμὴν καὶ χυμόν, τὰ δὲ τοῦναντίον.
 ὁμοίως δὲ καὶ 25
 δριμεῖα καὶ αὐστηρὰ καὶ ὀξεῖα καὶ λιπαρά ἐστὶν ὁσμή.
 ἀλλ' ὥσπερ εἴρηται διὰ τὸ μὴ σφόδρα διαδήλους εἶναι
 τὰς ὁσμὰς ὥσπερ τοὺς χυμούς, ἀπὸ τούτων εἴληφε τὰ ὀνό-
 ματα καθ' ὁμοιότητα τῶν πραγμάτων· ἡ μὲν γλυκεῖα
 κρόκου καὶ μέλιτος, ἡ δὲ δριμεῖα θύμου καὶ τῶν 30
 τοιούτων· τὸν αὐτὸν δὲ τρόπον καὶ ἐπὶ τῶν ἄλλων. ἔστι δ'
 ὥσπερ καὶ ἡ ἀκοὴ καὶ ἐκάστη τῶν αἰσθήσεων τοῦ τε ἀκουστοῦ
 καὶ ἀνηκούστου καὶ ὁρατοῦ καὶ ἀοράτου, καὶ ἡ ὀσφρη-
 σις τοῦ ὀσφραντοῦ καὶ ἀνοσφράντου. ἀνόσφραντον δὲ τὸ μὲν
 παρὰ τὸ ὅλως ἀδύνατον ἔχειν ὁσμὴν, τὸ δὲ μικρὰν ἔχον 35
 καὶ τὸ φαύλην, ὥσπερ τὸ ἄγευστον ὡσαύτως λέγεται. ἔστι δὲ
 καὶ ἡ ὀσφρησις διὰ τοῦ μεταξὺ, οἶον ὕδατος καὶ ἀέρος· καὶ
 γὰρ τὰ ἐνυδρα φαίνεται αἰσθανόμενα ὁσμῆς, καὶ τὰ
 ἔναιμα καὶ ἄναιμα ὁμοίως, ὥσπερ καὶ τὰ ἐν τῷ ἀέρι· καὶ
 γὰρ τούτων ἔνια πόρρωθεν ἀπαντᾷ πρὸς τὴν τροφὴν αἰσθανόμενα 40
 τὴν ὁσμὴν· διὸ καὶ ἔχει ἀπορίαν εἰ πάντα μὲν ὡσαύτως
 ὁσμᾶται, ὁ δ' ἄνθρωπος ἀναπνέων μὲν, μὴ ἀναπνέων δὲ
 ἀλλ' ἢ κατέχων τὸ πνεῦμα ἢ ἐκπνέων οὐκ ὁσμᾶται, οὔτε
 πόρρω οὔτ' ἐγγύς, οὐδ' ἂν ἐπιθῇ τις εἰς τὸν μυκτῆρα ἐντός.
 καὶ τὸ μὲν ἐπ' αὐτῷ τῷ αἰσθητηρίῳ τιθέμενον ἀναίσθητον 45
 εἶναι κοινὸν πάντων· ἀλλὰ τὸ ἄνευ τοῦ ἀναπνεῖν μὴ αἰσθά-
 νεσθαι ἴδιον ἐπὶ τῶν ἀνθρώπων ἐστίν· τοῦτο δὲ πειρωμένῳ
 δῆλον. εἰ οὖν τὰ ἄναιμα μὴ ἀναπνεῖ, ἐτέραν ἂν τινα ἔχοι
 αἰσθησιν παρὰ τὰς λεγομένας. ἀλλ' εἴπερ τῆς ὁσμῆς αἰσθάνεται
 ἀδύνατον· ἡ γὰρ τοῦ ὀσφραντοῦ καὶ εὐώδους καὶ δυσώδους αἰ- 50
 σθησις ὀσφρησίς ἐστιν. φαίνεται δὲ καὶ φθειρόμενα
 ὑπὸ τῶν ἰσχυρῶν ὁσμῶν ὑφ' ὧν περ καὶ ἄνθρωπος, οἶον ἀσφάλ-
 του καὶ θείου καὶ τῶν τοιούτων. ὀσφραίνεσθαι μέντοι νῦν ἀναγ-
 καῖον, ἀλλ' οὐκ ἀναπνεῖν. ἀλλ' ἔοικε διαφέρειν τὸ αἰσθητήριον

The Ordinary Text.

ρειν τὸ αἰσθητήριον τοῦτο πρὸς τὸ τῶν ἄλλων ζώων, ὥσπερ
 τὰ ὄμματα πρὸς τὰ τῶν σκληροφθάλμων· τὰ μὲν γὰρ
 ἔχει φράγμα καὶ ὥσπερ ἔλυτρον τὰ βλέφαρα, ἃ μὴ κινή-
 30 σας μηδ' ἀνασπᾶσας οὐχ ὁρά· τὰ δὲ σκληρόφθαλμα οὐδὲν
 ἔχει τοιοῦτον, ἀλλ' εὐθέως ὁρά· τὰ γινόμενα ἐν τῷ δια-
 φανεῖ. οὕτως οὖν καὶ τὸ ὁσφραντικὸν αἰσθητήριον τοῖς μὲν
 422^a ἀκάλυφες εἶναι, ὥσπερ τὸ ὄμμα, τοῖς δὲ τὸν ἀέρα δεχο-
 μένοις ἔχειν ἐπικάλυμμα, ὃ ἀναπνεόντων ἀποκαλύπτεσθαι,
 διευρυνομένων τῶν φλεβίων καὶ τῶν πόρων. καὶ διὰ τοῦτο
 τὰ ἀναπνέοντα οὐκ ὁσμᾶται ἐν τῷ ὑγρῷ· ἀναγκαῖον γὰρ
 5 ὁσφρανθῆναι ἀναπνεύσαντα, τοῦτο δὲ ποιεῖν ἐν τῷ ὑγρῷ
 ἀδύνατον. ἔστι δ' ἡ ὁσμὴ τοῦ ξηροῦ, ὥσπερ ὁ χυμὸς τοῦ
 ὑγροῦ· τὸ δὲ ὁσφραντικὸν αἰσθητήριον δυνάμει τοιοῦτον.

X. Τὸ δὲ γευστὸν ἐστὶν ἀπτὸν τι· καὶ τοῦτ' αἴτιον τοῦ
 μὴ εἶναι αἰσθητὸν διὰ τοῦ μεταξὺ ἀλλοτρίου ὄντος σώματος·
 10 οὐδὲ γὰρ ἡ ἀφή. καὶ τὸ σῶμα δὲ ἐν ᾧ ὁ χυμὸς, τὸ γευσ-
 στὸν, ἐν ὑγρῷ ὡς ὕλη· τοῦτο δ' ἀπτὸν τι. διὸ καὶ εἰ ἐν
 ὕδατι ἤμεν, ἡσθανόμεθ' ἂν ἐμβληθέντος τοῦ γλυκέος,
 οὐκ ἦν δ' ἂν ἡ αἴσθησις ἡμῖν διὰ τοῦ μεταξύ, ἀλλὰ τῷ
 μιχθῆναι τῷ ὑγρῷ, καθάπερ ἐπὶ τοῦ ποτοῦ. τὸ δὲ χρῶμα
 15 οὐχ οὕτως ὁράται τῷ μίγνυσθαι, οὐδὲ ταῖς ἀπορροαῖς. ὡς
 μὲν οὖν τὸ μεταξύ οὐθέν ἐστιν· ὡς δὲ χρῶμα τὸ ὁρατόν, οὕτω
 τὸ γευστὸν ὁ χυμὸς. οὐθέν δὲ ποιεῖ χυμοῦ αἴσθησιν ἄνευ
 ὑγρότητος, ἀλλ' ἔχει ἐνεργεῖα ἢ δυνάμει ὑγρότητα, οἷον τὸ
 ἀλμυρόν· εὐτηκτόν τε γὰρ αὐτὸ καὶ συντηκτικὸν γλώττης.
 20 ὥσπερ δὲ καὶ ἡ ὄψις ἐστὶ τοῦ τε ὁρατοῦ καὶ τοῦ ἀοράτου (τὸ
 γὰρ σκότος ἀόρατον, κρίνει δὲ καὶ τοῦτο ἡ ὄψις), ἔτι τοῦ
 λίαν λαμπροῦ (καὶ γὰρ τοῦτο ἀόρατον, ἄλλον δὲ τρόπον τοῦ
 σκότους), ὁμοίως δὲ καὶ ἡ ἀκοὴ ψόφου τε καὶ σιγῆς, ὧν
 τὸ

The Additional Version.

τοῦτο τοῖς ἀνθρώποις πρὸς τὸ τῶν ἄλλων ζῶων, ὥσπερ 55
 καὶ τὰ ὄμματα πρὸς τὰ τῶν σκληροφθάλμων· τὰ μὲν γὰρ
 ἔχει πῶμα καὶ ὥσπερ ἔλυτρον τὰς βλεφαρίδας, ἃς ἂν μὴ ἀνα-
 σπᾶσῃ καὶ κινήσῃ οὐχ ὀρᾷ· τὰ δὲ σκληρόφθαλμα οὐκ
 ἔχει, ἀλλ' εὐθύς ὀρᾷ, ὅτι ἂν τεθῇ ἐν τῷ διαφανεῖ
 οὕτω καὶ τὸ ὁσφραντικὸν αἰσθητήριον τοῖς μὲν 60
 ἀκάλυφον εἶναι, ὥσπερ τὸ ὄμμα, τοῖς δὲ δεχομένοις τὸν αἶρα
 ἔχειν ἐπικάλυμμα, ὃ ἀναπνεόντων ἀποκαλύπτεσθαι,
 διευρυνομένων τῶν φλεβῶν καὶ τῶν πόρων. καὶ διὰ τοῦτο
 τὰ ἀναπνέοντα ἐν τῷ ὑγρῷ οὐκ ὁσμᾶται, ὅτι ἀνάγκη
 ἀναπνεύσαντα ἰσφρανθῆναι, ἐν δὲ τῷ ὑγρῷ ἀδύνατον 65
 τοῦτο ποιεῖν. ἔστι δ' ἡ ὁσμὴ τοῦ ξηροῦ ὥσπερ ὁ χυμὸς τοῦ
 ὑγροῦ· τὸ δ' ὁσφραντικὸν αἰσθητήριον δυνάμει τοιοῦτον.

Τὸ δὲ γευστὸν ἐστὶν ἄπτόν τι καὶ τοῦτο αἷτιον τοῦ
 μὴ εἶναι αἰσθητὸν διὰ τοῦ μεταξὺ ἀλλοτρίου ὄντος σώματος·
 οὐδὲ γὰρ ἡ ἀφή. καὶ τὸ σῶμα, ἐν ᾧ ὁ χυμὸς, τὸ γευ- 70
 στὸν, ἐν ὑγρῷ ὥς ἔλῃ· τοῦτο δ' ἄπτόν τι. διὸ καὶ ἐν
 ὕδατι εἴημεν, αἰσθανόμεθα ἐμβληθέντος γλυκέος,
 οὐ διὰ τοῦ μεταξὺ δὲ ἡμῖν ἡ αἴσθησις, ἀλλὰ τῷ
 μιχθῆναι τῷ ὑγρῷ, ὥσπερ ποτῷ· τὸ δὲ χρώμα
 οὐχ οὕτως ὀρᾶται τῷ μίγνυσθαι οὐδὲ ταῖς ἀπορροαῖς. ὥς 75
 μὲν οὖν τὸ μεταξὺ οὐθέν ἐστιν ὥς δὲ χρώμα τὸ ὁρατὸν, οὕτω
 γευστὸν χυμὸς. οὐθέν δὲ ποιεῖ αἴσθησιν χυμοῦ ἄνευ
 ὑγρότητος, ἀλλ' ἔχει ἐνεργείᾳ ἢ δυνάμει ὑγρότητα, οἷον τὸ
 ἀλμυρόν· τηκτὸν τε γὰρ αὐτὸ καὶ συντηκτικὸν τῆς γλώττης.
 ὥσπερ δὲ καὶ ἡ ὄψις ἐστὶ τοῦ τε ἑρατοῦ καὶ τοῦ ἀοράτου (ὁ 80
 γὰρ σκότος ἀόρατος, κρίνει δὲ καὶ τοῦτον ἡ ὄψις), ἔτι τοῦ
 λῖαν λαμπροῦ (καὶ γὰρ τοῦτό πως ἀόρατον, ἄλλον τρόπον καὶ
 ὁ σκότος), ὁμοίως δὲ καὶ ἡ ἀκοὴ ψόφου τε καὶ σιγῆς, ὧν
 τὸ

The Ordinary Text.

IV.

423^b 8—424^b 18.

B, XI. § 7—XII. § 6.

καίτοι καθάπερ εἶπαμεν καὶ πρότερον, καὶν εἰ δι' ὑμένος αἰσθανόμεθα τῶν ἀπτῶν ἀπάντων λανθάνοντος ὅτι διείργει, ὁμοίως ἂν ἔχοιμεν ὥσπερ καὶ νῦν ἐν τῷ ὕδατι καὶ ἐν τῷ ἀέρι· δοκοῦμεν γὰρ αὐτῶν ἄπτεσθαι καὶ οὐδὲν εἶναι διὰ μέσου. ἀλλὰ διαφέρει τὸ ἀπτὸν τῶν ὁρατῶν καὶ τῶν ψοφητικῶν, ὅτι ἐκείνων μὲν αἰσθανόμεθα τῷ τὸ μεταξὺ ποιεῖν τι ἡμᾶς, τῶν δὲ ἀπτῶν οὐχ ὑπὸ τοῦ μεταξὺ ἀλλ' ἅμα τῷ μεταξὺ, ὥσπερ ὁ δι' ἀσπίδος πληγείς· οὐ γὰρ ἡ ἀσπίς πληγείσα ἐπάταξεν, ἀλλ' ἅμφω συνέβη πληγῇναι. ὅλως δ' ἔοικεν ἡ σὰρξ καὶ ἡ γλῶττα, ὡς ὁ ἀὴρ καὶ τὸ ὕδωρ πρὸς τὴν ὄψιν καὶ τὴν ἀκοὴν καὶ τὴν ὁσφρησιν ἔχουσιν, οὕτως ἔχειν πρὸς τὸ αἰσθητήριον ὥσπερ ἐκείνων ἕκαστον. αὐτοῦ δὲ τοῦ αἰσθητηρίου ἀπτομένου οὐτ' ἐκεῖ οὐτ' ἐνταῦθα γένοιτ' ἂν αἰσθησις, οἷον εἴ τις σῶμα τὸ λευκὸν ἐπὶ τοῦ ὀμματος θείῃ τὸ ἔσχατον. ἢ καὶ δῆλον ὅτι ἐντὸς τὸ τοῦ ἀπτοῦ αἰσθητικόν. οὕτω γὰρ ἂν συμβαίνοι ὅπερ καὶ ἐπὶ τῶν ἄλλων· ἐπιτιθεμένων γὰρ ἐπὶ τὸ αἰσθητήριον οὐκ αἰσθάνεται, ἐπὶ δὲ τὴν σάρκα ἐπιτιθεμένων αἰσθάνεται· ὥστε τὸ μεταξὺ τοῦ ἀπτικοῦ ἢ σάρξ. ἀπταὶ μὲν οὖν εἰσὶν αἱ διαφοραὶ τοῦ σώματος ἢ σῶμα· λέγω δὲ διαφορὰς αἱ τὰ στοιχεῖα διορίζουσι, θερμὸν ψυχρόν, ξηρὸν ὑγρόν, περὶ ὧν εἰρήκαμεν πρότερον ἐν τοῖς περὶ στοιχείων. τὸ δὲ αἰσθητήριον αὐτῶν τὸ ἀπτικόν, καὶ ἐν ᾧ ἡ καλουμένη ἀφή ὑπάρχει πρῶτον, τὸ δυνάμει τοιοῦτόν ἐστι μόριον· τὸ γὰρ αἰσθάνεσθαι πᾶσχειν τι ἐστίν· ὥστε τὸ ποιοῦν οἶον αὐτὸ ἐνεργεῖα, τοιοῦτον ἐκεῖνο ποιεῖ δυνάμει ὄν. διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ ἢ σκληροῦ καὶ μαλακοῦ οὐκ αἰσθανόμεθα, ἀλλὰ τῶν ὑπερβολῶν, ὡς τῆς αἰσθήσεως οἶον μεσότητός τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεταί γὰρ πρὸς ἐκάτερον αὐτῶν θάτερον τῶν ἄκρων· καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθῆσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργεῖα,

The Additional Version.

IV.

B, XI. § 7—XII. § 6.

E. fol. 196 r^o.

εἴρηται πρότερον
 ὅτι καὶ δι' ὑμένοιο ἂν πάντων αἰσθανοίμεθα τῶν ἀπτῶν, κὰν
 εἰ λανθάνοι διείργων, ὁμοίως ἂν ἔχοιμεν ὥσπερ νῦν ἐν
 τῷ ὕδατι καὶ ἐν τῷ ἀέρι· δοκοῦμεν γὰρ αὐτῶν θιγγάνειν
 καὶ οὐθὲν εἶναι διὰ μέσου. ἀλλὰ διαφέρει τούτῳ τὰ ἀπτά τῶν ὁρα- 5
 τῶν καὶ ψοφητικῶν, ὅτι ἐκείνων αἰσθανοίμεθα τῷ
 τὸ μεταξὺ ποιεῖν τι ἡμᾶς, τῶν δ' ἀπτῶν οὐχ' ὑπὸ τοῦ με-
 ταξὺ ἀλλ' ἅμα τῷ μεταξὺ, ὥσπερ οἱ διὰ τῆς ἀσπίδος πλη-
 γέντες· οὐδὲ γὰρ ἡ ἀσπίς πληγείσα ἐπάταξεν, ἀλλ' ἅμα ἀμ-
 φοῖν συνέβη πληγῇ· ὅλως δ' ἔοικε καὶ ἡ σὰρξ καὶ ἡ γλῶττα, 10
 ὥς ὁ ἀὴρ καὶ τὸ ὕδωρ πρὸς τὴν ὄψιν καὶ τὴν ἀκοὴν καὶ
 ὁσφρησιν ἔχουσιν, οὕτως ἔχειν πρὸς τὸ αἰσθητήριον ὥσ-
 περ ἐκείνων ἕκαστον. αὐτοῦ δὲ τοῦ αἰσθητηρίου ἀπτομένου
 οὐτ' ἐκεῖ οὐτ' ἐνταῦθα γένοιστ' (sic) ἂν αἰσθησις. οἷον εἴ τις τὸ σῶμα
 τὸ λευκὸν ἐπὶ τοῦ ὀφθαλμοῦ θέῃ τὸ ἔσχατον. ἢ καὶ δήλον 15
 ὅτι ἐντὸς τὸ τοῦ ἀπτοῦ αἰσθητικόν. οὕτω γὰρ ἂν συμβαίνει
 ὕπερ ἐπὶ τῶν ἄλλων· ἐπιτιθεμένου γὰρ ἐπὶ τὸ αἰσθητή-
 ριον οὐκ εσθαι (sic), ἐπὶ δὲ τὴν σάρκα ἐπιτιθεμένου αἰσθά-
 νεται· ὥστε μεταξὺ ἄρα τοῦ ἀπτικοῦ ἢ σάρξ. ἀπταὶ μὲν οὖν
 εἰσὶν αἱ διαφοραὶ τοῦ σώματος ἢ σώμα· λέγω δὲ διαφορὰς 20
 αἱ τὰ στοιχεῖα διορίζουσι· θερμὸν καὶ ψυχρὸν καὶ ξηρὸν καὶ
 ὑγρὸν, περὶ ὧν εἴρηται πρότερον ἐν τοῖς περὶ τῶν στοιχείων. τὸ δὲ
 αἰσθητήριον αὐτῶν τὸ ἀπτικόν, καὶ ἐν ᾧ ἡ καλουμένη ἀφή ὑπάρ-
 χει πρῶτον, τὸ δυνάμει τοιοῦτόν ἐστι μόνον· τὸ γὰρ αἰσθά-
 νεσθαι πάσχειν τί ἐστίν· ὥστε τὸ ποιοῦν οἷον αὐτὸ ἐνεργεῖα, 25
 τοιοῦτον ποιεῖ ἐκεῖνο τὸ δυνάμει ὄν. διὸ τοῦ ὁμοίως θερμοῦ ἢ
 ψυχροῦ ἢ σκληροῦ ἢ μαλακοῦ οὐκ αἰσθανοίμεθα, ἀλλὰ
 τῶν ὑπερβολῶν, ὥς ἂν τῆς αἰσθήσεως οἷον μεσότητος
 τινος οὐσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο
 κρίνει τὰ αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεται γὰρ πρὸς ὁ- 30
 ποτερονοῦν αὐτῶν θάτερον τῶν ἄκρων· καὶ δεῖ ὥσπερ τὸ μέλλον
 λευκοῦ αἰσθάνεσθαι ἢ μέλανος μηδέτερον εἶναι ἐνεργεῖα,

The Ordinary Text.

δυνάμει δ' ἄμφω, οὕτω δὲ καὶ ἐπὶ τῶν ἄλλων καὶ ἐπὶ τῆς
 10 ἀφῆς μήτε θερμὸν μήτε ψυχρόν. ἔτι δ' ὥσπερ ὁρατοῦ καὶ
 ἀοράτου ἦν πως ἡ ὄψις, ὁμοίως δὲ καὶ αἱ λοιπαὶ τῶν ἀντι-
 κειμένων, οὕτω καὶ ἡ ἀφή τοῦ ἀπτοῦ καὶ ἀνάπτου· ἀναπτὸν
 δ' ἐστὶ τό τε μικρὰν ἔχον πάμπαν διαφορὰν τῶν ἀπτῶν,
 οἷον πέπονθεν ὁ ἀήρ, καὶ τῶν ἀπτῶν αἱ ὑπερβολαί, ὥσπερ
 15 τὰ φθαρτικά. καθ' ἐκάστην μὲν οὖν τῶν αἰσθήσεων εἴρηται
 τύπος.

XII. Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ
 μὲν αἴσθησις ἐστὶ τὸ δεκτικὸν τῶν αἰσθητῶν εἰδῶν ἄνευ τῆς
 ὕλης, οἷον ὁ κήρὸς τοῦ δακτυλίου ἄνευ τοῦ σιδήρου καὶ τοῦ
 20 χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χρυσοῦν ἢ τὸ
 χαλκοῦν σημεῖον, ἀλλ' οὐχ ἡ χρυσοῦς ἢ χαλκός. ὁμοίως δὲ
 καὶ ἡ αἴσθησις ἐκάστου ὑπὸ τοῦ ἔχοντος χρῶμα ἢ χυμὸν ἢ
 ψόφον πάσχει, ἀλλ' οὐχ ἡ ἑκάστον ἐκείνων λέγεται, ἀλλ'
 ἡ τοιονδί, καὶ κατὰ τὸν λόγον. αἰσθητήριον δὲ πρῶτον ἐν
 25 ᾧ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν ταυτόν, τὸ δ' εἶναι ἕτε-
 ρον· μέγεθος μὲν γὰρ ἂν τι εἴη τὸ αἰσθανόμενον· οὐ μὴν τό-
 γε αἰσθητικῷ εἶναι, οὐδ' ἡ αἴσθησις μέγεθός ἐστιν, ἀλλὰ λό-
 γος τις καὶ δύναμις ἐκείνου. φανερόν δ' ἐκ τούτων καὶ διὰ
 τί ποτε τῶν αἰσθητῶν αἱ ὑπερβολαὶ φθείρουσι τὰ αἰσθητή-
 30 ρια· ἐὰν γὰρ ἡ ἰσχυροτέρα τοῦ αἰσθητηρίου ἡ κίνησις, λύε-
 ται ὁ λόγος, τοῦτο δ' ἦν ἡ αἴσθησις, ὥσπερ καὶ ἡ συμ-
 φωνία καὶ ὁ τόνος κρουμένων σφόδρα τῶν χορδῶν. καὶ διὰ
 τί ποτε τὰ φυτὰ οὐκ αἰσθάνεται, ἔχοντά τι μόνιον ψυχι-
 κὸν καὶ πάσχοντά τι ὑπὸ τῶν ἀπτῶν· καὶ γὰρ ψύχεται
 424^b καὶ θερμαίνεται· αἷτιον γὰρ τὸ μὴ ἔχειν μεσότητα, μηδὲ
 τοιαύτην ἀρχὴν οἷαν τὰ εἶδη δέχεσθαι τῶν αἰσθητῶν, ἀλλὰ
 πάσχειν μετὰ τῆς ὕλης. ἀπορήσειε δ' ἂν τις εἰ πάθοι ἂν
 τι ὑπ' ὁσμῆς τὸ ἀδύνατον ὁσφρανθῆναι, ἢ ὑπὸ χρώματος τὸ
 5 μὴ δυνάμενον ἰδεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ
 τὸ ὁσφραντὸν ὁσμή, εἴ τι ποιεῖ, τὴν ὁσφρησιν ἢ ὁσμή ποιεῖ.
 ὥστε τῶν ἀδυνάτων ὁσφρανθῆναι οὐθὲν οἷόν τε πάσχειν ὑπ'
 ὁδμῆς· ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων· οὐδὲ τῶν δυ-
 νατῶν, ἀλλ' ἡ αἰσθητικὸν ἑκάστον. ἅμα δὲ δηλὸν καὶ οὕτως

The Additional Version.

ἀλλὰ δυνάμει, οὕτω δὴ καὶ ἐπὶ τῶν ἄλλων καὶ ἐπὶ τῆς
 ἀφῆς μήτε θερμόν μήτε ψυχρόν. ἔτι δ' ὥσπερ τοῦ τε ὁρατοῦ καὶ
 τοῦ ἀοράτου ἦν πως ἡ ὄψις, ὁμοίως δὲ καὶ αἱ ἄλλαι τῶν ἀντι- 35
 κειμένων, οὕτω καὶ ἡ ἀφή τοῦ ἀπτοῦ καὶ ἀνάπτου· ἀναπτου
 δὲ τό τε μικρὰν πᾶμπαν ἔχον διαφορὰν τῶν ἀπτῶν,
 οἷον πέπονθεν ὁ ἀήρ, καὶ αἱ ὑπερβολαὶ τῶν ἀπτῶν, ὥσπερ
 τὰ φθαρτικά. καθ' ἐκάστην μὲν οὖν αἰσθησιν εἴρηται
 ὥς ἐν τύπῳ εἰπεῖν.

40

Καθόλου δὲ περὶ πάσης αἰσθήσεως δεῖ λαβεῖν ὅτι ἡ
 μὲν αἰσθησίς ἐστι τὸ δεκτικὸν τῶν αἰσθητῶν ἄνευ τῆς
 ὕλης, οἷον ὁ κηρὸς τοῦ δακτυλου (sic) ἄνευ τοῦ σιδήρου καὶ τοῦ
 χρυσοῦ δέχεται τὸ σημεῖον, λαμβάνει δὲ τὸ χαλκοῦν ἢ χρυ- 70
 σοῦν σημεῖον (sic), ἀλλ' οὐχ ἡ χαλκὸς ἢ χρυσός. ὁμοίως δὲ 45
 καὶ ἡ αἰσθησις ἐκάστη ὑπὸ τοῦ ἔχοντος χρῶμα ἢ ψόφον ἢ χυμὸν
 πᾶσχει, ἀλλ' οὐχ ἡ ἑκαστον ἐκείνων λέγεται, ἀλλ'
 ἡ τοιόνδε καὶ κατὰ τὸν λόγον. αἰσθητήριον δὲ πρῶτον, ἐν
 ᾧ ἡ τοιαύτη δύναμις. ἔστι μὲν οὖν τὸ αὐτό, τὸ δ' εἶναι ἕτε-
 ρον· μέγεθος μὲν γὰρ ἂν τι εἴη τὸ αἰσθανόμενον· οὐ μέντοι 50
 τό γε αἰσθητικῶς εἶναι ἡ αἰσθήσει μεγέθει ἐστὶν εἶναι, ἀλλὰ λό-
 γος τις καὶ δύναμις ἐκείνου. φανερόν δ' ἐκ τούτων καὶ διὰ
 τί ποτε τῶν αἰσθητῶν αἱ ὑπερβολαὶ φθίρουσι (sic) τὰς αἰσθήσεις·
 ἂν γὰρ ἡ ἢ κίνησις ἰσχυροτέρα τοῦ αἰσθητηρίου, λύε-
 ται ὁ λόγος, τοῦτο δ' ἦν αἰσθησις, ὥσπερανεῖ ἡ συμφω- 55
 νία καὶ ὁ τόνος σφόδρα κρουόμενων τῶν χορδῶν. καὶ διὰ
 τί ποτε τὰ φυτὰ οὐκ αἰσθάνεται, ἔχοντά τι μόριον ψυχι-
 κὸν καὶ πᾶσχοντα ὑπὸ τῶν ἀπτῶν· καὶ γὰρ ψύχεται
 καὶ θερμενεται (sic)· ἐτιον (sic) δὲ τὸ μὴ ἔχειν μεσότητα, μηδὲ
 τοιαύτην ἀρχήν, οἷαν τὰ εἶδη τῶν αἰσθητῶν δέχεσθαι, ἀλλὰ 60
 μετὰ τῆς ὕλης πᾶσχειν. ἀπορήσειε δ' ἂν τις, ἄρα πάθοι ἂν
 ὑπ' ὁσμῆς τὸ μὴ δυνάμενον ὁσφρανθῆναι, ἢ ὑπὸ χρώματος τὸ
 μὴ δυνάμενον ἰδεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δ' ἡ
 ὁσμὴ τὸ ὁσφραντόν, εἴ τι ποιεῖ, τὴν ὁσφρησιν ποιεῖ ὁσμῇ.
 ὥστε οὐθέν πᾶσχειν τῶν ἀδυνάτων ὁσφρανθῆναι. 65
 ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων· οὐδὲ τῶν δυ-
 νατῶν, ἀλλ' ἡ αἰσθητικὸν ἑκαστον. ἅμα δὲ δῆλον καὶ οὕτως.

The Ordinary Text.

10 οὔτε γὰρ φῶς καὶ σκότος οὔτε ψόφος οὔτε ὁσμὴ οὐδὲν ποιεῖ
 τὰ σώματα, ἀλλ' ἐν οἷς ἐστίν, οἷον ἀήρ ὁ μετὰ βροντῆς
 δίστησι τὸ ξύλον. ἀλλὰ τὰ ἀπτά καὶ οἱ χυμοὶ ποιοῦσιν· εἰ
 γὰρ μή, ὑπὸ τίνος ἂν πάσχοι τὰ ἄφυχα καὶ ἀλλοιοῖτο;
 ἄρ' οὖν κακέῖνα ποιήσει; ἢ οὐ πᾶν σῶμα παθητικὸν ὑπ' ὁσμῆς
 15 καὶ ψόφου· καὶ τὰ πάσχοντα ἀόριστα, καὶ οὐ μένει, οἷον
 ἀήρ· ὅξει γὰρ ὥσπερ παθὼν τι. τί οὖν ἐστὶ τὸ ὁσμᾶσθαι
 παρὰ τὸ πάσχειν τι; ἢ τὸ μὲν ὁσμᾶσθαι αἰσθάνεσθαι, ὁ
 δ' ἀήρ παθὼν ταχέως αἰσθητὸς γίνεται.

The Additional Version.

οὔτε γὰρ ψόφος οὔτε τὸ φῶς καὶ σκότος οὔτε ἡ ὁσμὴ οὐθέν ποιεῖ
 τὰ σώματα, ἀλλ' ἐν οἷς ἐστίν, οἶον ἀήρ ὁ μετὰ τῆς βροντῆς
 διέστησε τὸ ξύλον. ἀλλὰ δὴ τὰ ἰπτά καὶ οἱ χυμοὶ ποιοῦσιν· εἰ 70
 γὰρ μή, ὑπὸ τίνος ἂν πάσχοι τὰ ἄψυχα ἢ ἀλλοιοῖτο;
 ἄρ' οὖν κακείνα ποιεῖ; ἢ οὐ πᾶν σῶμα παθητικὸν ὑπ' ὁσμῆς
 καὶ ψόφου· καὶ τὰ πάσχοντα ἀόριστα, καὶ οὐ μένει, οἶον
 ἀήρ· ὅξει γὰρ ὡς παθών τι. τί οὖν ἐστὶ τὸ ὁσμᾶσθαι
 παρὰ τὸ πάσχειν τι; ἢ τὸ μὲν ὁσμᾶσθαι καὶ αἰσθάνεσθαι, ὁ 75
 δ' ἀήρ παθὼν τοῦτο ταχὺ αἰσθητὸς γίγνεται.

Ἀριστοτέλους περὶ ψυχῆς Γ'.

APPENDIX B.

ARISTOTLE'S DIALOGUE EUDEMUS.

THE following passages are our chief sources of information respecting Aristotle's psychological Dialogue Eudemus. They are printed in the same order as that in which they are collected in the Berlin Academy Edition of Aristotle's Works. For some account of the probable course of the argument see Bernays, *Die Dialoge des Aristoteles*, especially pp. 21—27.

1. *Cicero de Divinat.* I. 25: Quid? singulari vir ingenio Aristoteles et paene divino ipsene errat an alios vult errare, cum scribit Eudemum Cyprium familiarem suum iter in Macedoniam facientem Pheras venisse, quae erat urbs in Thessalia tum admodum nobilis, ab Alexandro autem tyranno, crudeli dominatu tenebatur. In eo igitur oppido ita graviter aegrum Eudemum fuisse ut omnes medici diffiderent. Ei visum in quiete egregia facie juvenem dicere fore ut perbrevis convalesceret paucisque diebus interiturum Alexandrum tyrannum, ipsum autem Eudemum quinquennio post domum esse rediturum. Atque ita quidem prima statim scribit Aristoteles consecuta et convaluisse Eudemum et ab uxoris fratribus interfectum tyrannum. Quinto autem anno exeunte cum esset spes ex illo somnio in Cyprium illum ex Sicilia esse rediturum, proeliantem eum ad Syracusas occidisse. Ex quo ita illud somnium esse interpretatum ut cum animus Eudemi e corpore excesserit, tum domum revertisse videatur.

2. *David Proleg. in Ar. Categ.* p. 24^b 10: τῶν δὲ συνταγματικῶν τὰ μὲν εἰσιν αὐτοπρόσωπα ἃ καὶ ἀκροαματικά λέγονται, τὰ δὲ διαλογικά, ἃ καὶ ἐξωτερικά λέγονται...ἔγραψε δὲ καὶ πρὸς

ἀνεπιτηδείους πρὸς φιλοσοφίαν τὰ διαλογικά...κατασκευάζων δὲ τὴν ἀθανασίαν τῆς ψυχῆς κὰν τοῖς ἀκροαματικοῖς δι' ἀναγκαστικῶν λόγων κατασκευάζει, ἐν δὲ τοῖς διαλογικοῖς διὰ πιθανῶν εἰκότως. φησὶ γὰρ ἐν τοῖς περὶ ψυχῆς ἀκροαματικοῖς ὅτι ἡ ψυχὴ ἄφθαρτος· εἰ γὰρ ἦν φθαρτὴ, ἔδει μάλιστα αὐτὴν φθεῖρεσθαι ὑπὸ τοῦ ἐν τῷ γήρα ἁμαυροῦσθαι, τότε δὲ ἀκμάζει τοῦ σώματος παρακμάσαντος· ὥσπερ οὖν παρακμάζει ὅτε τὸ σῶμα ἀκμάζει· τὸ δὲ ὅτε δεῖ φθεῖρεσθαι ἀκμάζον ἄφθαρτον· ἡ ψυχὴ ἄρα ἄφθαρτός ἐστι. καὶ οὕτως μὲν ἐν τοῖς ἀκροαματικοῖς· ἐν δὲ τοῖς διαλογικοῖς φησὶν οὕτως, ὅτι ἡ ψυχὴ ἀθάνατος, ἐπεὶ αὐτοφυῶς πάντες οἱ ἄνθρωποι καὶ σπένδομεν χοὰς τοῖς κατοικοιχομένοις καὶ ὁμνυμεν κατ' αὐτῶν, οὐδεὶς δὲ τῷ μηδαμῇ μηδαμῶς ὄντι σπένδει ποτὲ ἢ ὕμνυσι κατ' αὐτοῦ. ὁ δὲ Ἀλέξανδρος ἄλλην διαφορὰν λέγει τῶν ἀκροαματικῶν πρὸς τὰ διαλογικά, ὅτι ἐν μὲν τοῖς ἀκροαματικοῖς τὰ δοκοῦντα αὐτῷ λέγει καὶ τὰ ἀληθῆ, ἐν δὲ τοῖς διαλογικοῖς τὰ ἄλλοις δοκοῦντα τὰ ψευδῆ...τοῦτο δὲ εἶπεν Ἀλέξανδρος ἐπεὶ τὴν λογικὴν ψυχὴν βούλεται φθαρτὴν εἶναι, ὁ δὲ Ἀριστοτέλης ἐν τοῖς διαλογικοῖς μάλιστα δοκεῖ κηρύττειν τὴν ἀθανασίαν τῆς ψυχῆς. ἵνα οὖν μὴ σχῇ ἐλέγχοντα τὸν Ἀριστοτέλην, διὰ τοῦτο εἶπε τοιαύτην διαφορὰν.

Themist. de Anima (Opp. ed. Venet. 1534, f. 90^b, t. II. p. 196, 21, Spengel) : καὶ οἱ λόγοι δὲ οὓς ἠρώτησε (Plato in the *Phaedo*) περὶ ψυχῆς ἀθανασίας εἰς τὸν νοῦν ἀνάγονται σχεδόν τι οἱ πλείστοι καὶ ἐμβριθέστατοι, ὅ τε ἐκ τῆς αὐτοκινήσιας· ἐδείχθη γὰρ ὡς αὐτοκίνητος μόνος ὁ νοῦς, εἰ τὴν κίνησιν ἀντὶ τῆς ἐνεργείας νοοίημεν· καὶ ὁ τὰς μαθήσεις ἀναμνήσεις εἶναι λαμβάνων καὶ ὁ τὴν πρὸς τὸν θεὸν ὁμοιότητα. καὶ τῶν ἄλλων δὲ τοὺς ἀξιοπιστοτέρους δοκοῦντας οὐ χαλεπῶς ἂν τις τῷ νῷ προσβιβάσειεν. ὥσπερ γε καὶ τῶν ὑπ' Ἀριστοτέλους ἐξειργασμένων ἐν τῷ Εὐδήμῳ. ἐξ ὧν δῆλον ὅτι καὶ Πλάτων τὸν νοῦν ἀθάνατον μόνον ὑπολαμβάνει.

3. *Proclus in Plat. Tim.* v. p. 338^a (p. 823 Schn.): τὴν ψυχὴν τῷ σώματι συνήψεν ἀμέσως πάντα τὰ περὶ καθόδου ψυχῆς ὑπεκτεμῶν προβλήματα...ἀλλ' οὐδὲ τὰ μετὰ τὴν ἐξοδον αὐτῆς ἐν τούτοις παραδώσει...ὅτι φήσω τὸ πρέπον διασώζει τῇ τοῦ διαλόγου προθέσει καὶ τῆς περὶ ψυχῆς θεωρίας ὅσον φυσικὸν ἐν τούτοις παραλαμβάνει τὴν πρὸς τὸ σῶμα τῆς ψυχῆς ὁμίλιαν παραδίδους. ὁ δὲ καὶ Ἀριστοτέλης ζηλώσας ἐν τῇ περὶ ψυχῆς πραγματείᾳ φυσικῶς αὐτὴν μεταχειριζόμενος οὔτε περὶ καθόδου

ψυχῆς οὐδε περὶ λήξεων ἐμνημόνευσεν, ἀλλ' ἐν τοῖς διαλόγοις χωρὶς ἐπραγματεύσατο περὶ αὐτῶν καὶ τὸν προηγούμενον κατεβάλλετο λόγον.

4. *Proclus in Plat. Remp. (Diss. XII.) apud Maium Spicileg. Rom. t. VIII. Rom. 1842, p. 705*: λέγει δὲ καὶ ὁ δαιμόνιος Ἀριστοτέλης αἰτίαν δι' ἣν ἐκεῖθεν μὲν ἰούσα ἡ ψυχὴ δεῦρο ἐπιλάνθεται τῶν ἐκεῖ θεαμάτων, ἐντεῦθεν δὲ ἐξιούσα μέμνηται ἐκεῖ τῶν ἐνταῦθα παθημάτων. καὶ ἀποδεικτέον τοῦ λόγου· φησὶ γὰρ οὖν καὶ αὐτὸς ἐκ μὲν ὑγείας εἰς νόσον ὀδεύοντας λήθην ἴσχειν τινας καὶ αὐτῶν τῶν γραμμάτων ὧν ἐμεμαθηκείσαν, ἐκ νόσον δὲ εἰς ὑγίαν ἰόντα μηδένα πώποτε τοῦτο πάσχειν· εἰκέναι δὲ τὴν μὲν ἄνεν σώματος ζῶν ταῖς ψυχαῖς κατὰ φύσιν οὔσαν [ὑγίαν, νόσῳ δὲ τὴν ἐν σώματι. ὅθεν] σημαίνει τὰς μὲν ἐκεῖθεν ἰούσας ἐπιλανθάνεσθαι τῶν ἐκεῖ, τὰς δὲ ἐντεῦθεν ἐκείσε τῶν ἐνταῦθα διαμνημονεῖν.

5. *Augustinus contra Julianum Pelag. 4 (15) 78*: Quanto ergo te melius veritatis vicinior de hominum generatione senserunt quos Cicero in extremis partibus Hortensii Dialogi velut ipsa rerum evidentia doctus compulsusque commemorat. nam cum multa quae videmus et gemimus de hominum vanitate atque felicitate dixisset, ex quibus humanae, inquit, vitae erroribus et aerumnis fit ut interdum veteres illi sive vates sive in sacris initiisque tradendis divinae mentis interpretes, qui nos ob aliqua scelera suscepta in vita superiore poenarum luendarum causa natos esse dixerunt, aliquid vidisse videantur verumque sit illud quod est apud Aristotelem, simili nos affectos esse supplicio atque eos qui quondam cum in praedonum Etruscorum manus incidissent, crudelitate excogitata necabantur, quorum corpora viva cum mortuis, adversa adversis accommodata quam artissime colligabantur: sic nostros animos cum corporibus ut vivos cum mortuis esse conjunctos.

6. *Schol. (Olympiodori et al.) in Plat. Phaed. (p. 111), p. 165 (Finckh)*: ὅτι δὲ δεῖ τι καὶ ὅλον γένος ἀνθρώπων εἶναι οὕτω τρεφόμενον δημοῖ καὶ ὁ τῇδε ταῖς ἡλιακαῖς ἀκτῖσι μόναις τρεφόμενος, ὃν ἰστόρησεν Ἀριστοτέλης ἰδὼν αὐτός.

Schol. al. ad eundem locum, p. 203: εἰ ἐνταῦθα ἰστόρησεν Ἀριστοτέλης ἀνθρώπον αὐπνον καὶ μόνῳ τῷ ἡλιοειδεῖ τρεφόμενον αἱρί, τί χρὴ περὶ τῶν ἐκεῖ οἰεσθαι;

7. *Plutarch. qu. conv. 8, 9, 3*: τὴν δὲ Τίμωνος ἐν Κιλικίᾳ

τηθὴν Ἀριστοτέλης ιστόρηκε φωλεύειν τοῦ ἔτους ἐκάστου δύο μῆνας, μηδενὶ πλὴν μόνῳ τῷ ἀναπνεῖν ὅτι ζῇ διαδήλον οὔσαν.

8. *Olympiodor. in Phaedon.*, p. 22 (Finckh): καὶ ὁ μὲν Πρόκλος βούλεται τὰ οὐράνια ὄψιν μόνον καὶ ἀκοὴν ἔχειν καθάπερ καὶ Ἀριστοτέλης· μόνας γὰρ τῶν αἰσθήσεων ἐκείνας ἔχει τὰς πρὸς τὸ εὖ εἶναι συμβαλλομένας, οὐ μὴν τὰς πρὸς τὸ εἶναι, αἱ δὲ ἄλλαι αἰσθήσεις πρὸς τὸ εἶναι συμβάλλονται. καὶ ὁ ποιητῆς δὲ μαρτυρεῖ τούτοις λέγων, “ἡἷλιος, ὃς πάντ’ ἐφορᾷς καὶ πάντ’ ἐπακούεις” ὡς ἂν ὄψιν μόνην καὶ ἀκοὴν αὐτῶν ἐχόντων· καὶ ὅτι αὐταὶ μάλιστα αἱ αἰσθήσεις ἐν τῷ ἐνεργεῖν μᾶλλον γινώσκουσιν ἢ περ ἐν τῷ πάσχειν καὶ οἰκειότεραι αὐταὶ αὐτοῖς ὡς ἀναλλοιώτοις. ὁ δὲ γε Δαμάσκιος καὶ τὰς ἄλλας αἰσθήσεις βούλεται αὐτὰ ἔχειν.

9. *Plutarch. Consolat. ad Apoll.* 27: πολλοῖς γὰρ καὶ σοφοῖς ἀνδράσιν, ὡς φησι Κράντωρ, οὐ νῦν ἀλλὰ πάλαι κέκλαινται τὰνθρώπινα τιμωρίαν ἡγουμένοις εἶναι τὸν βίον καὶ ἀρχὴν τὸ γενέσθαι ἄνθρωπον συμφορὰν τὴν μεγίστην. τοῦτο δὲ φησιν Ἀριστοτέλης καὶ τὸν Σείληνον συλληφθέντα τῷ Μίδᾳ ἀποφύνασθαι. βέλτιον δ’ αὐτὰς τὰς τοῦ φιλοσόφου λέξεις παραθέσθαι. φησὶ δ’ ἐν τῷ Εὐδήμῳ ἐπιγραφομένῳ ἢ περὶ ψυχῆς ταυτί “διὸ περῶσι κράτιστα καὶ μακαριστότατα. καὶ πρὸς τῷ μακαρίους καὶ εὐδαίμονας εἶναι τοὺς τετελευτηκότας νομίζομεν καὶ τὸ ψεύσασθαι τι κατ’ αὐτῶν καὶ τὸ βλασφημεῖν οὐχ ὅσιον ὡς κατὰ βελτιόνων καὶ κρείττονων ἤδη γεγονότων. καὶ ταῦθ’ οὕτως ἀρχαῖα καὶ παλαιὰ διατελεῖ νενομισμένα παρ’ ἡμῖν, ὥστε τὸ παράπαν οὐδεὶς οἶδεν οὔτε τοῦ χρόνου τὴν ἀρχὴν οὔτε τὸν θέντα πρῶτον, ἀλλὰ τὸν ἄπειρον αἰῶνα τυγχάνουσι διὰ τέλους οὕτω νενομικότες. πρὸς δὲ δὴ τούτοις διὰ στόματος ὃν τοῖς ἀνθρώποις ὀρᾷς ὡς ἐκ πολλῶν ἐτῶν καὶ παλαιοῦ χρόνου περιφέρεται θρυλούμενον—τί τοῦτ’; ἔφη. κάκεινος ὑπολαβὼν ὡς ἄρα μὴ γίνεσθαι μὲν, ἔφη, ἄριστον πάντων, τὸ δὲ τεθνάναι τοῦ ζῆν ἐστὶ κρεῖττον. καὶ πολλοῖς οὕτω παρὰ τοῦ δαιμονίου μεμαρτύρηται. τοῦτο μὲν ἐκείνῳ τῷ Μίδᾳ λέγουσι δῆπου μετὰ τὴν θήραν ὡς ἔλαβε τὸν Σείληνόν διερωτῶντι καὶ πυνηανομένῳ τί ποτέ ἐστι τὸ βέλτιον τοῖς ἀνθρώποις καὶ τί τὸ πάντων αἰρετώτατον, τὸ μὲν πρῶτον οὐδὲν ἐθέλειν εἰπεῖν ἀλλὰ σιωπᾶν ἀρρήτως· ἐπειδὴ δὲ ποτε μόλις πᾶσαν μηχανὴν μηχανάμενος προσηγάγετο φθέγξασθαι τι πρὸς αὐτόν, οὕτως ἀνακαγχάζοντα εἰπεῖν· Δαίμονος ἐπιπόνου καὶ Τύχης χαλεπῆς ἐφήμερον σπέρμα, τί με

βιάζεσθε λέγειν ἂ ὑμῖν ἄρειον μὴ γινῶναι; μετ' ἀγνοίας γὰρ τῶν οἰκείων κακῶν ἀλυπότατος ὁ βίος. ἀνθρώποις δὲ πάνπαν οὐκ ἔστι γενέσθαι τὸ πάντων ἄριστον οὐδὲ μετασχεῖν τῆς τοῦ βελτίστου φύσεως· ἄριστον ἄρα πᾶσι καὶ πάσαις τὸ μὴ γενέσθαι· τὸ μέντοι μετὰ τοῦτο καὶ τὸ πρῶτον τῶν ἄλλων ἀνυστύν, δεύτερον δέ, τὸ γενομένους ἀποθανεῖν ὡς τάχιστα. δῆλον οὖν ὡς οὔσης κρείττονος τῆς ἐν τῷ τεθνάναι διαγωγῆς ἢ τῆς ἐν τῷ ζῆν οὕτως ἀπεφήνατο.

10. *Io. Philoronus in Ar. de An. I (c. 4 in.) ed. Ven. 1535, f. E. 1^a sup.*: μεμφάμενος ὁ Ἀριστοτέλης κοινῶς τοὺς περὶ ψυχῆς ἅπαντας εἰπόντας ὅτι μηδὲν περὶ τοῦ δεχομένου αὐτὴν σώματος διελέχθησαν...οἰκείως ἀκόλουθον τούτοις περὶ ψυχῆς δόξαν συνάπτει. εἰς ταῦτό γάρ τινες ἀποβλέψαντες ὅτι οὐχ ὡς ἔτυχε τὸ σῶμα ψυχῆς μετέχει, ἀλλὰ δεῖ τοιαῦδε κράσεως, ὥσπερ καὶ ἡ ἀρμονία οὐχ ὡς ἔτυχε τῶν χορδῶν ἐχουσῶν γίνεται, ἀλλὰ δεῖ τοσσησδε τάσεως, ἐνόμισαν καὶ τὴν ψυχὴν ἀρμονίαν εἶναι τοῦ σώματος καὶ πρὸς τοὺς διαφόρους τοῦ σώματος ἀρμονίας τὰ διάφορα εἶδη τῶν ψυχῶν εἶναι. ταύτην οὖν ἐκτίθεται τὴν δόξαν καὶ διελέγχει. καὶ τέως μὲν αὐτὴν τὴν δόξαν μόνην ἐν τούτοις ἱστορεῖ, μετ' ὀλίγα δὲ καὶ τοὺς λόγους δι' ὧν εἰς ταύτην ἐκείνοι τὴν δόξαν ὑπήχθησαν τίθησιν. ἤδη δὲ καὶ ἐν ἄλλοις πρὸς ταύτην ἀντίειπεν τὴν δόξαν, λέγω δὴ ἐν τῷ Εὐδήμῳ διαλόγῳ, καὶ πρὸ αὐτοῦ ὁ Πλάτων ἐν τῷ Φαίδῳ πέντε τισὶ κέχρηται ἐπιχειρήμασι πρὸς ταύτην ἐνιστάμενος τὴν δόξαν...(f. E. 1^b) αὗται μὲν οὖν αἱ πέντε ἐπιχειρήσεις αἱ Πλάτωνος. κέχρηται δὲ καὶ αὐτὸς ὁ Ἀριστοτέλης ὡς ἤδη εἶπον ἐν τῷ Εὐδήμῳ τῷ διαλόγῳ δύο ἐπιχειρήσεσι ταύταις, μὴ μὲν οὕτως· τῇ ἀρμονίᾳ, φησὶν, ἔστι τι ἐναντίον ἢ ἀναρμοστία· τῇ δὲ ψυχῇ οὐδὲν ἐναντίον. οὐκ ἄρα ἡ ψυχὴ ἀρμονία ἐστίν. εἶποι δ' ἂν τις πρὸς τοῦτο (ait Alexander) ὅτι τῇ ἀρμονίᾳ ἐναντίον οὐκ ἔστι κυρίως ἐναντίον ἀλλὰ στέρησις ἀόριστος· καὶ τῇ ψυχῇ δ' ὡς εἶδει τιμὴ οὔση ἔστι τι ἀντικείμενον ἀόριστον, καὶ ὥσπερ ἐκεῖ φαμέν τὴν τοιάνδε ἀρμονίαν μεταβάλλειν εἰς τὴν ἀναρμοστίαν, οὕτω καὶ τὴν τοιάνδε στέρησιν μεταβάλλειν εἰς ψυχὴν· δευτέρα δὲ τῇ ἀρμονίᾳ, φησὶ, τοῦ σώματος ἐναντίον ἐστὶν ἡ ἀναρμοστία τοῦ σώματος, ἀναρμοστία δὲ τοῦ ἐμψύχου σώματος νόσος καὶ ἀσθένεια καὶ αἰσχος· ὧν τὸ μὲν ἀσυμμετρία τῶν στοιχείων ἢ νόσος, τὸ δὲ τῶν ὁμοιομερῶν ἢ ἀσθένεια, τὸ δὲ τῶν ὁργανικῶν τὸ αἰσχος. εἰ τοίνυν ἡ ἀναρμοστία νόσος καὶ ἀσθένεια, καὶ αἰσχος, ἡ ἀρμονία ἄρα ὑγίεια καὶ ἰσχύς καὶ

κάλλος. ψυχὴ δὲ οὐδὲν ἐστὶ τούτων οὔτε ὑγίεια φημι οὔτε ἰσχύς οὔτε κάλλος· ψυχὴν γὰρ εἶχε καὶ ὁ Θερσίτης αἰσχιστος ὢν. οὐκ ἄρα ἐστὶν ἡ ψυχὴ ἁρμονία. καὶ ταῦτα μὲν ἐν ἐκείνοις. ἐνταῦθα δὲ τέσσαρσι κέχρηται ἐπιχειρήσειν ἀνασκευαστικαῖς τῆς δόξης ταύτης, ὢν τὸ τρίτον ἐστὶ τὸ εἰρημένον ἐν τῷ Εὐδήμῳ δεύτερον... (f. E. 2^a), “ἀρμόζει δὲ μᾶλλον καθ’ ὑγείας λέγειν ἁρμονίαν καὶ ὅλως τῶν σωματικῶν ἀρετῶν ἢ κατὰ ψυχῆς”: τοῦτο τρίτον ἐπιχείρημα. ἐστὶ δὲ τὸ δεύτερον τῶν ἐν τῷ Εὐδήμῳ. ὅτι δὲ ἁρμονία ἡ ὑγίεια ἔδειξεν ἐν ἐκείνοις ἐκ τοῦ ἐναντίου τῆς νόσου. εἵπομεν δὲ ἀνωτέρω τὴν ἀγωγὴν τοῦ συλλογισμοῦ.

Simplicius, f. 14^a (ed. Ven. Ald. 1527), p. 53, Hayduck: ἐν κοινῷ δὲ γινομένους λόγους τοὺς συμμέτρως καὶ τοῖς πολλοῖς ἠρωτημένους καλεῖ, αἰνιττόμενος μὲν ἴσως καὶ τοὺς ἐν Φαίδωνι, λέγων δὲ καὶ τοὺς ὑπ’ αὐτοῦ ἐν τῷ διαλόγῳ τῷ Εὐδήμῳ γραφέντας ἐλεγκτικούς τῆς ἁρμονίας.

Themistius de An. f. 70^a (t. II. p. 54, 3 Speng.): καὶ ἄλλη δέ τις δόξα παραδέδοται περὶ ψυχῆς πιθανὴ μὲν οὐδεμιᾷ ἥσσαν τῶν λεγομένων, δεδοκυῖα δὲ εὐθύνας καὶ ἐξητασμένη καὶ ἐν τοῖς κοινοῖς λόγοις καὶ ἐν τοῖς ιδίοις. λέγουσι γὰρ τινες αὐτὴν ἁρμονίαν· καὶ γὰρ τὴν ἁρμονίαν κρᾶσιν καὶ σύνθεσιν τῶν ἐναντίων εἶναι καὶ τὸ σῶμα συγκεῖσθαι ἐξ ἐναντίων. τὴν οὖν τὰναντία ταῦτα εἰς συμφωνίαν ἄγουσαν καὶ ἀρμόζουσαν, θερμὰ λέγω καὶ ψυχρὰ καὶ ὑγρὰ καὶ ξηρὰ καὶ σκληρὰ καὶ μαλακὰ καὶ ὅσαι ἄλλαι ἐναντιώσεις τῶν πρώτων σωμάτων, οὐδὲν ἄλλο εἶναι ἢ τὴν ψυχὴν, ὥσπερ καὶ ἡ τῶν φθόγγων ἁρμονία τὸ βαρὺ καὶ τὸ ὀξύ συναρμόζει. πιθανότητα μὲν οὖν ὁ λόγος ἔχει, διεληλεγκται δὲ πολλαχῇ καὶ ὑπ’ Ἀριστοτέλους καὶ ὑπὸ Πλάτωνος. καὶ γὰρ ὅτι τὸ μὲν πρῶτον τοῦ σώματος, τοὔτεστιν ἡ ψυχὴ, ἁρμονία δὲ ὕστερον· καὶ ὅτι τὸ μὲν ἄρχει καὶ ἐπιστατεῖ τῷ σώματι καὶ μάχεται πολλάκις, ἁρμονία δὲ οὐ μάχεται τοῖς ἡρμωσμένοις· καὶ ὅτι τὸ μᾶλλον καὶ ἥττον ἁρμονία μὲν δέχεται, ψυχὴ δὲ οὐ. καὶ ὡς ἁρμονία μὲν σωζομένη οὐ προσίεται ἀναρμοστίαν, ψυχὴ δὲ κακίαν προσίεται· καὶ ὅτι εἴπερ τοῦ σώματος ἡ ἀναρμοστία νόσος ἐστὶν ἢ αἰσχος ἢ ἀσθένεια, ἡ ἁρμονία τοῦ σώματος κάλλος ἂν εἴη καὶ ὑγίεια καὶ δύναμις ἄλλ’ οὐ ψυχὴ, ταῦτα μὲν ἅπαντα εἴρηται ὑπὸ τῶν φιλοσόφων ἐν ἄλλοις· ἃ δὲ νῦν Ἀριστοτέλης φησὶ τοιαῦτα ἐστίν... ὅτι μὲν οὖν οἱ λέγοντες ἁρμονίαν τὴν ψυχὴν οὔτε ἐγγὺς ἄγαν οὔτε πόρρω τῆς ἀληθείας βάλλειν ἂν δόξειαν, καὶ ἐκ τῶν νῦν εἰρημένων καὶ ἐκ τῶν ἐν ἄλλοις δηλὸν ἐστίν.

Olympiod. vel Procli. eclog. Schol. in Phaedon. p. 142, 1 (ed. Finckh, Heilbr. 1847): ὅτι ὁ Ἀριστοτέλης ἐν τῷ Εὐδήμῳ οὕτως ἐπιχειρεῖ τῇ ἀρμονίᾳ ἐναντίον ἐστὶν ἡ ἀναρμοστία, τῇ δὲ ψυχῇ οὐδὲν ἐναντίον· οὐσία γάρ· καὶ τὸ συμπέρασμα δῆλον. ἔτι, εἰ ἀναρμοστία τῶν στοιχείων τοῦ ζώου νόσος, ἡ ἀρμονία εἴη ἂν ὑγίεια ἀλλ' οὐχὶ ψυχῇ. *ib.* p. 142, 8: τὸ τρίτον ταῦτόν τῳ ἐν Εὐδήμῳ δευτέρῳ.

11. *Simplic. in Ar. de An.* l. III. f. 62^a inf. Hayduck, p. 221: ὁ μὲν οὖν Πλάτων καὶ ἐπὶ πάντων εἴωθεν ὁμωνύμως τὰ τε εἶδη καὶ τὰ κατ' αὐτὰ εἰδοποιούμενα προσαγορεύειν. ὁ δὲ Ἀριστοτέλης ὅταν μὲν μεριστὸν τὸ εἰδοποιούμενον ᾗ, φυλάττεται τὴν ὁμωνυμίαν διὰ τὴν πολλὴν τοῦ μεριστοῦ πρὸς τὸ εἶδος ἀμερίστον ὃν ἀπόστασιν· τὴν δὲ λογικὴν ψυχὴν ὡς μὴ μόνον ὀριζομένην ἀλλὰ καὶ ὄρον οὖσαν· μεταξὺ γὰρ ὡς τοῦ ἀμερίστον καὶ μεριστοῦ ἄμφω πῶς οὖσα, οὕτω καὶ τοῦ ὄρου καὶ τοῦ ὀριζομένου ἀμφοτέρων ἐμφαίνουσα, τὸ μὲν ὡς ἀνελιττομένη, τὸ δὲ διὰ τὴν αἰὲ κατὰ ὄρους μετάβασιν καὶ διὰ τὴν τῶν ἀνελιγμένων πάντων εἰς ἓν συναγωγὴν ὡς παρισυμένη τῷ ὀρίζοντι νῷ. καὶ διὰ τοῦτο καὶ ἐν τῷ Εὐδήμῳ τῷ περὶ ψυχῆς αὐτῷ γεγραμμένῳ διαλόγῳ εἶδος τι ἀποφαίνεται τὴν ψυχὴν εἶναι, καὶ ἐν τούτοις ἐπαινεῖ τοὺς τῶν εἰδῶν δεκτικὴν λέγοντας τὴν ψυχὴν, οὐχ ὅλην ἀλλὰ τὴν νοητικὴν ὡς τῶν ἀληθῶν δευτέρως εἰδῶν γνωστικὴν· τῷ γὰρ τῆς ψυχῆς κρείττονι νῷ τὰ ἀληθῆ εἶδη σύστοιχα.

12. *Plutarchus de Musica*, c. 22: δεδειγμένον δὲ ὅτι ὁ Πλάτων οὐτ' ἀγνοία οὐτ' ἀπειρία τὰ ἄλλα παρητήσατο ἀλλ' ὡς οὐ πρόποντα τοιαύτη πολιτεία δείξομεν ἐξῆς ὅτι ἔμπειρος ἀρμονίας ἦν. ἐν γοῦν τῇ ψυχογονίᾳ τῇ ἐν τῷ Τιμαίῳ... (c. 23) ὅτι δὲ σεμνὴ ἡ ἀρμονία καὶ θεῖον τι καὶ μέγα, Ἀριστοτέλης ὁ Πλάτωνος ταῦτι λέγει “ἡ δὲ ἀρμονία ἐστὶν οὐρανία τὴν φύσιν ἔχουσα θεῖαν καὶ καλὴν καὶ δαιμονίαν· τετραμερὴς δὲ τῇ δυνάμει πεφυκνία δύο μεσότηας ἔχει ἀριθμητικὴν τε καὶ ἀρμονικὴν, φαίνεται τε τὰ μέρη αὐτῆς καὶ τὰ μεγέθη καὶ αἱ ὑπεροχαὶ κατ' ἀριθμὸν καὶ ἰσομετρίαν· ἐν γὰρ δυσὶ τετραχόρδοις ῥυθμίζεται τὰ μέρη. ταῦτα μὲν τὰ ῥητά.”

INDEX TO THE GREEK TEXT.

[The letters refer to the books, the numerals to the chapters and sections.]

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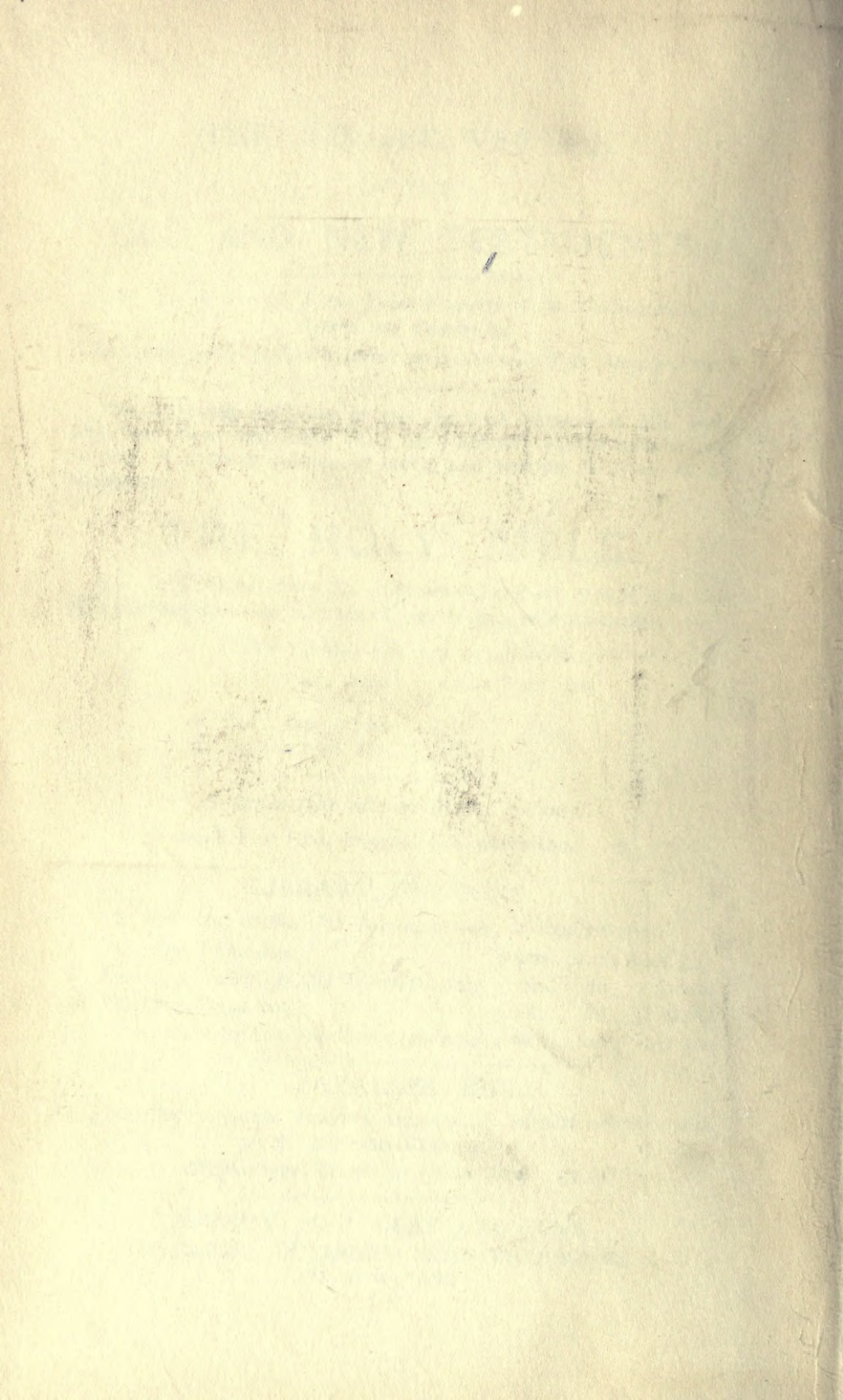
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